DarKastle
>>The spectacular 'next generation' theme park ride

Olga Antonenko
>>we interview the matte painter & compositing artist.

Rebeca Puebla
>>we interview the 3D Artist for Zinkia Entertainment

Compositing
>>Hasraf Dulull on mixing pyro footage, photography and CGI to create a fully animated VFX shot.

Masterclass
>>Part 2 of the in-depth Texturing a Human Head Tutorial

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>>Stardust's talents soar in a new campaign

Making Of's Section
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Asylum 3D
>>we talk to Matt Westrup of Asylum 3D on their work

3Dcreative

Contents

WELCOME

to the March 06 issue, let's start with last month's Survey Results :

A very big thanks to all the readers who gave us the feedback & well done to Earl Ricks Jr & 'XPress' whose names came out of the hat for the Shorts Drawer double set prizes!

The survey has proved to be very interesting reading and I will try to summarise the main points as these will contribute to shaping the magazine's future. Starting with your favourite sections; tutorials seem to romp it home with 'in-depth tutorials' coming in first, closely followed by 'tutorial overviews' (image making of's). The "galleries" are very popular and so are the interviews, so we seem to be on the right track and we will aim for even more in-depth tutorials in future issues. A very important question asked was, "would you like to see a printed version of the magazine for around $8?" Surprisingly only 45% of readers would like this, with everyone else preferring the $4 download.

People told us the current downloadable version does have many advantages; it is

instant to get wherever your location; it saves trees; you can zoom in on images using your reader; there are no import costs like with other printed magazines; and some people said it's easier to catalogue and search back issues. We are still making serious enquiries about a printed version and we are aware of the huge advantages of this format too, but if we do go down this route it's now clear that the downloadable pdf format will always be an available option. Everyone seems to like our method of trying to include more timeless content, avoiding news and reviews, Many comments say that they prefer to read news and reviews on the many daily updated websites, many of which are free, such as our sponsor sites (see back page of mag for many of these amazing CG news sites). To round off here are just a few additional comments selected which go some way to summing up the hundreds we received :

" It's very good, it covers almost all the necessary required topics for a 3d artist, except it must be available all over world, Asia too for example" - In the purchase page at www.3dcreativemag.com, there is now a link to a regular shop, this is especially for non Paypal countries.

" I really don't think it's lacking..I'd like to see some more advanced and detailed tutorials. Also, the new making of sections are great "

" I love the magazine. I think all the main areas are covered exceptionally well. Perhaps one thing I would like to see a little of are rigging and skinning and maybe animation tutorials. Overall the mag is great and I look forward to every issue.LONG LIVE 3DCREATIVE MAGAZINE!"

" Overall it's the best 3d magazine in print or Pdf I've seen. I happily drop the bucks for the subscription as well as for the 2D Artist one. The work is phenomenal and its truly inspiring. I love the in depth tutorials. Keep them coming! My only complaint is the editing of the content. I found myself having to re-read sections because words are missed or misplaced or misspelled. Other than that, I'm drooling..."
- Firstly, thanks for the praise! Secondly, early issues were not proofed very well due to time constraints, all current and future issues are now proofed and checked very thoroughly!

" *I think the magazine is great and not only because I won last month's competition:) But seriously, it really inspires me to do things I have never tried before, As someone who is relatively new to the 3d scene, it is a great way to learn new things and to read about how more experienced people see and do things.*" - Well done on winning and thanks for the comments! Ok! Enough statistics and 3DCreative staff head swelling! Let's get on with this issue's summary :

TECHNIQUES AND TUTORIALS

Richard Tilbury's Texturing Masterclass continues with painting the skin texture for the human head that we unwrapped last month. 3 fantastic "making of's" for some of the 3DCreative team's all time favourite images from previous galleries, being; 'The Chameleon' by Anna Celarek, 'The Oddfather' by Peter Sussi and 'Hanuman' by Udom Ruangpaisitport. The mega Joan of Arc series reaches it's penultimate part and Florian Wild gives us part 2 of "Physical Light, Mental Ray"

INTERVIEWS AND INSPIRATION

The talents of Rebeca Puebla, Olga Antonenko and Matt Westrup are exposed in these 3 interviews; 15 pages of images, insight and inspiration!

INDUSTRY ARTICLES

We have really gone to town this month, 3 insightful articles, Top of the list is Hasraf Dulull's compositing feature, Many thanks to Hasraf for writing this exclusive article which is definitely one of this issues highlights.

EXTRAS

Competition to win copies of the BAFTA award winning 'Fallen art from Platige Image. 10 of the best artworks in the galleries section and our recruitment section.

ABOUT US

Zoo Publishing is a new company comprising of a small team here in the Midlands, UK. This magazine is our first project which we are hoping, with the support of the community, will build into a great resource and a highly anticipated monthly release. The 'support of the community' is an interesting point, where a 'magazine for 3d artists' is not an original idea, the marketing and distribution of this magazine, as far as we know, is a first. It follows the principle of traditional magazines that are sold on news stands and in many outlets, but being a digital downloadable mag the many established web communities on the net are our outlets and newsstands. 3DCreative is supported by 3dexcellence, 3dkingdom, 3dlinks, 3dm, 3dmonkeys, 3dnuts, 3dpalace, 3dresources, 3dtotal, 3dvalley,123d, ambiguous arts, cgchannel, cgdirectory, cgfocus, cgunderground, childplaystudios, daz3d, deathfall, digitaltutors, kurv studio, max-realms, mediaworks, rendezvous3D, spinquad, subdivision, the3dstudio, thebest3d, vocanson & vanishingpoint.

We look forward to lasting and successful partnerships with these CG community sites.

this issues contributing artists

Every month, many artists from around the world contribute to 3DCreative Magazine. This month, we would like to thank the following for their time, experiences and inspiration.
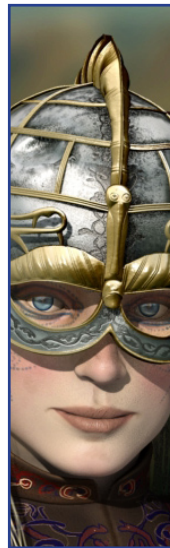
Rebeca Puebla

3DModeller/Texturer - Freelancer - Madrid, Spain I started in the CG World in 2002 with 3D Studio Max, later I began to work in the company Zinkia Entertainment for the animated serie"Pocoyó". I specialise in the modeling and texturing of characters in 3D and at the moment I am freelancer for companies like Blur Studio.

rebecapuebla@hotmail.com
http://rebecapuebla.blogspot.com/

Hasraf Dulull

Started as a level artist on motocross games & interactive media before moving into CGI & visual effects where he worked as animation & post production director for several high profile clients, a feature film, music videos & a short animation film called Spring Heeled Jack. He is currently an experienced marketing artist at Codemasters. Also working on personal projects pushing his visual effects & compositing to new heights by collaborating with animators, artists, producers & directors worldwide. www.haz-creative.com
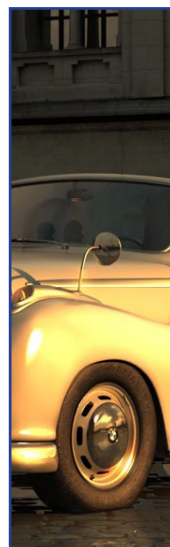
Olga Antonenko

Concept artist/mattepainter/ compositing artist/3D artist. Moscow, Russia. Started as a concept/background artist for animated films in 2000. Now working in cinema production. This year worked as a mattepainter and compositing artist on feature film "Wolfhound". Currently working at Kinopostproduction department Channel One Russia on cinema and commercials production.

info@cgpolis.com
www.cgpolis.com

Luciano Iurino

I started back in 1994 with 3D Studio on MS-Dos as modeler/texture artist. In 2001 I co-founded PM Studios (an Italian videogame developer) with some friends and I still work for it as Lead 3D Artist. Recently we have developed the videogame "ETROM – The Astral Essence". I also work as freelancer for different magazines, web-portals, gfx and videogame companies. Recently I left the 3dsmax environment to move on XSI.

iuri@pmstudios.it

SOFTIMAGE
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JOAN OF ARC TUTORIAL ARTISTS - PAGE 058

Vojislav Milanovic

3D modeler & animator, vfx compositor, Anigraph studio, Banja Luka, Bosnia
Self though allround 3D guy, started to doodle around in 3D about 8 years ago. In the last 5 years I have done a lot of various things from print and TV ads to gaming & movie graphics. Currently involved in multimedia study and character developing for an animated feature movie. One of my carrer goals is to work in a large studio and make my own animated movie.

vojo@teol.net   http://users.teol.net/~vojo

lightwave

CINEMA 4D

Niki Bartucci

3d modeler > Freelancer Bari, Italy > I started working in the field of Computer Graphics in 2000 as an illustrator & web designer. In 2003 I started using 3d graphic software such as Cinema4D & later 3d Studio Max. That year I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm a freelancer & I specialise in commercials. I Like 3d graphics and video-games, especially RPG & RTS video-games.

niki@pikoandniki.com www.pikoandniki.com

Taylor Kingston

3D artist > Digital Illusions (DICE) > London Ontario, Canada > Started out with 3D on Studio Max 1. Self taught through high school, going to Sheridan College for tradition art, and Seneca College for Computer Animation where I switched over to Maya. Hoping to one day break into film, perhaps even getting into the directing side one day. Currently working at Digital Illusions as an object artist.

taylor.kingston@sympatico.ca
puckducker.deviantart.com

MAYA
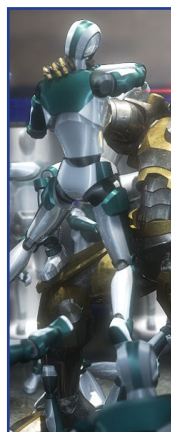
CINEMA 4D

Giuseppe Guglielmucci

3d modeler / 3d animator > Freelancer > Bari, Italy > I have began to use computers with the epoch of the vic20 and Cinema4d was my first 3d software. I started working in the field of CG in 1999 in commercial design. In 2003 I worked on ETROM - The Astral Essence, RPG video-game for PC, developed by PMstudios. Currently I'm a freelancer specialising in commercials, hoping to work in the video-games industry and develop my own game.

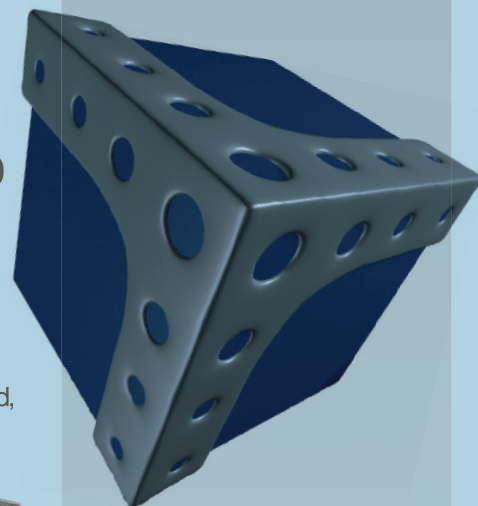piko@pikoandniki.com www.pikoandniki.com

Olga Antonenko

Hi! Olga, can you tell us about yourself please?

Sure no problem. Nowadays I live in Moscow, working as a mattepainter/compositing artist in cinema and in the production of commercials. I also work sometimes as a concept artist in animated films and game projects for different studios. In spite of my busyness I try to spend as much time as I can with my husband and daughter.

So how did you start out in this field, did you go to college or are your self taught?

I began drawing when I was a small child and I always seemed to like it so much. Though there were no artists in my family (my mother is an engineer and my father a serving soldier), they always helped me in my aspiration to art. My education started when I was five, when my mother took me to an art studio. When I was 10, I read in a newspaper "Pionerskaya Pravda" about qualifications for the best art school in Moscow and in the whole of Russia. I pursuaded my mother to let me go there and she was happy when I passed the exams. I
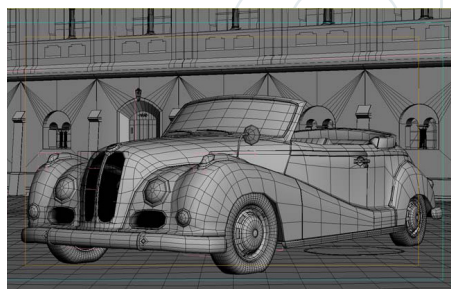
had to spend 2 hours every day travelling on the way to school, but that wasn't the hardest part. We had all the ordinary subjects like in all schools and many specific ones (art, drawing, composition, history of art etc). I had to study for more then 6-7 hours a day and from this I learned to spend my time effectively and to leave some time for rest. After finishing school, I entered Moscow State Art Institute named by V. Surikov. I'm really grateful to all of my teachers, as they made so much out of me, and gave me a real classical art education.

During the training course we spent a lot of time painting from life, and I think that is a very important part – a real artist should capture lines, forms and shades which most people

usually cannot see. I have spent five years on careful paintings, quick drawings, so I can now paint with my eyes closed.

Do you think having a classical art education, like yourself beneficial to any up an coming digital artist?

Sure, you can know all the buttons in any software perfectly, but there are some things that are very hard to learn and feel without education: composition, colour, anatomy etc.

You seem to be a very good all round artist which not a lot of artist seem to be nowadays. You tend to find they focus just on one area. So what's your secret?

I began working with CG, painting concept art for cartoons when I was studying in the institute. I liked this sort of work because I had freedom with colours, composition and choice of details. I don't like to paint over ready sketches, I prefer to represent my own feelings and vision of the subject. Then I worked as an artist on a TV program. It was a crazy rhythm of work, sometimes at night; sometimes I had to do some compositing work. My colleagues noticed that my scenes looked more realistic, atmospheric and alive. Then I worked as an artist and compositor making small videos for different games, where I worked closely with 3d. These days I've done practically everything: sketches, concepts of backgrounds, modelling, texturing and compositing. In modern technologies everything is so tight, you have to know everything in the entire process, and it is even better when you can do most things. It allows me to find the easiest way to solve different problems. For example sometimes it is better to use layer renders and compose it later, that allows you to save a lot of rendering time because you can change the picture without rendering the entire image once more.

communicating with other compositors. I like painting backgrounds and concept art for animated films also, because this work is very creative, I have a lot of free space for imagination. Sometimes I do 3d work too.

How important do you think it is to be familiar with a 3d package in relation to matte painting?
I do not think that it is critical to use 3d programs when your a mattepainter, but you should know some basics because you will work with other departments of the studio closely and any misunderstanding between mattepainter, compositor and 3d artist can result in alteration of your wonderful image.

Sometimes I use 3d to make a rough scene before painting. The benefits are – perfect perspective, quick change of composition and lighting of the scene. I don't use this

So out of all these areas which one do you prefer to work in?
I prefer to work on feature films, it is harder and more interesting, because you have to do absolutely everything photorealisticly. I can use my art skills, and I think that matte painting is very close to painting from life. I compose my own backgrounds into final scenes often, it is easier when you can compose painted parts and source material yourself without

technique too often, only on complex scenes with architecture. Anyway there is never any necessary knowledge: the more techniques you can use, the better and faster work you can do.

What do you do to relax?

As I work with computers every day I prefer to spend my free time as far away from it as I can. At winter I ride my snowboard, summer time I prefer climbing mountains and swimming in the sea. Also I spend a lot of time with my little daughter.

Sounds great, snowboarding huh? So what tricks can you do?

I prefer the hard disciplines of snowboarding: slalom, giant slalom, freecarving; I like boardcross also. I never tried halfpipe, maybe because we do not have one here in Moscow. So I do not do any tricks, I concentrate on making perfect arcs on the slope at max speed.

What would you like to be doing in 10 years time?

I hope I could earn enough money to buy a little house near the mountains at the coast, where I could give birth to 3-4 more children, bring them up, and maybe sometimes paint something for myself.

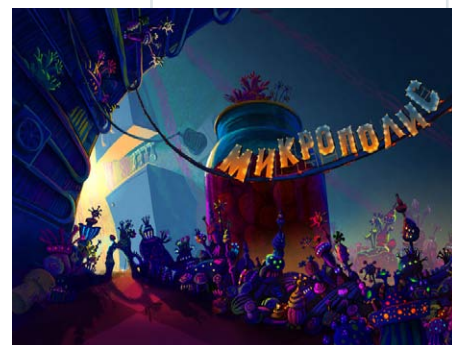**What has been your main source of inspiration to this date?**

I have many sources of inspiration: good mood, beautiful sky, nice people, my daughter when her behavior is fine, my husband also when his behavior is fine.

Its been a pleasure talking with you, many thanks

Interviewed By :

CHRIS PERRINS

olga@cgpolis.com

REBECA
PUEBLA

3D Artist for for Zinkia
Entertainment and its
animated serie"Pocoyo"

Rebeca Puebla

Describe your art background and the path that led to your current position as a freelance artist ?

My background is short but very intensive. First I was a traditional 2D illustrator but 3D began attracting me more and more. I have mainly tried to develop those aspects that have captivated me most about 3D such as modelling, texturing and the final render of an image. I have also acquired much experience working for Zinkia Entertainment and its animated series"Pocoyo", alongside continuing to work at home on my own projects like SangYeng. Hard work and posting your images on different sites on the Internet helps a great deal and informs companies about what you may be able to offer for future projects.

How important do you think working as an illustrator was in helping you develop your 3D skills?

I'm a bit mediocre as a traditional illustrator, a little slow and not very spontaneous, whereas in 3D I feel much more comfortable and I can visualise my models more clearly. However I admit that having a sound grounding in 2D and having drawn many portraits and traditional paintings has helped with respect to 3D such as textures, composition and the final result of

Rebeca Puebla 2003
3D Studio Max 5.0-Brazil r/s

the image. It is important to show a clear idea of what we you to transmit; too many details or different colours can distract the viewer from the image. All the composition should be properly explained and each part has to be separated to be able to understand it at first sight. Carefully looking at traditional paintings and studying and developing part of your model on paper can be really helpful in view of creating a good image.

Could you tell us a little about working on Pocoyo and what your job involved?
 My job is to model all the characters and props that appear in the series. I'm the only person who does this part of the production process because there isn't a large amount of
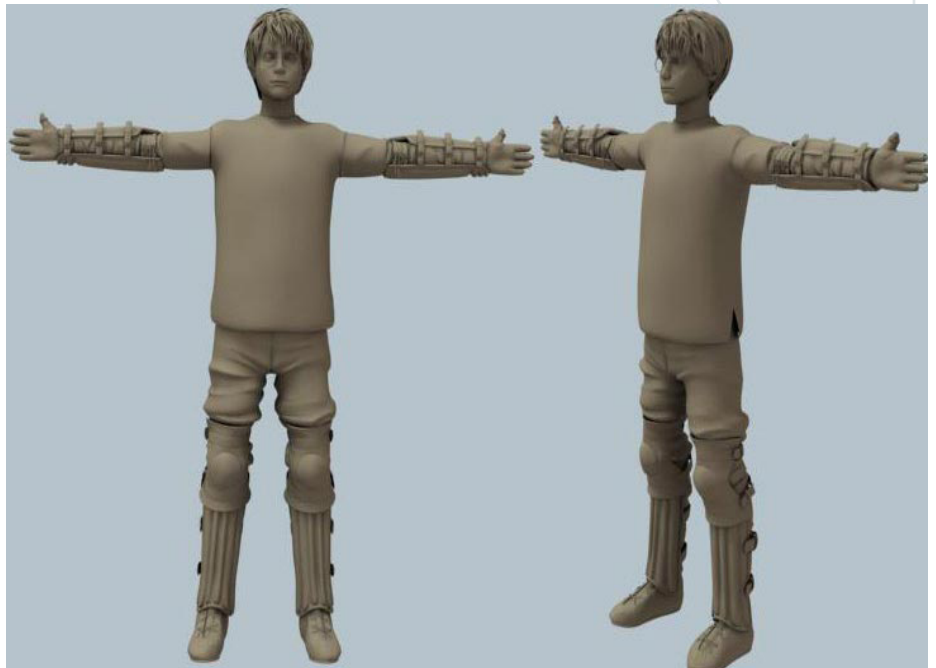
Rebeca Puebla 2003

work.

Pocoyo is a very "cartoony" show, very simple but really bright and colourful! Before I started on Pocoyo, I had been working on "realistic" and "baroque" style projects which were very different from the style used for Pocoyo so it took me some time to get used to it, but I finally made it. I think that through practising my own style and Pocoyo's I have achieved much more versatility in my modelling. Doing different things is always interesting and productive.

What is it about the cg industry that interests you?

What I like most about the CG industry is the spectacular effects it can produce and the high degree of realism that it can portray. I especially love films which are realistic and have wonderful special effects such as Starwars and Lord of the Rings – two of my favourites.

Which CG character in cinematic terms do you think has been the most successful in communicating emotion and been a convincing character in their own right and why?

As a viewer I think it is difficult for a hyper real CG character to transmit as much emotion and expression as a real actor. Though they may be technically faultless, normally their quality seems to be meaningless and this can be disturbing. For me, only Gollum has been able to transmit all the feelings expected in a real actor - and more! I can tell that the new King Kong must be impressive too but I can´t really say because I haven't been able to see the movie yet.

What would be your ideal project to work on and why?

It would enchant me to work on a very realistic film utilising 3D as realism facinates me.

interview

What is it about the illusion of realism that fascinates you?

Whether drawing or working in CG, I normally stick with traditional canons and I always develop characters with a timeless appeal who are easy to recognize. I don't try to create hyperrealism because of reasons I have alredy mentioned; you can end up with a character that doesn't transmit anything at all. Usually what I try to do is realistic with a pictorial touch.

That is what I love, and what I always try to achieve

Which artists / subject matter have had the greatest influence on your work and explain why?
I love comics, covering all European artists like Serperi, Manara and Moebius. I also admire painters such as Waterhouse and Gustav Klimt and 3D artists like Oliver Ponsonett and Pascal Blachet. I think that I like them because

I feel that I can identify with all of them which is something I try and achieve in my images.

What ambitions do you have for the future with regards to your development as an artist?
I would simply like to be able to continue working in CG; to continue advancing in my profession and making my best possible work.
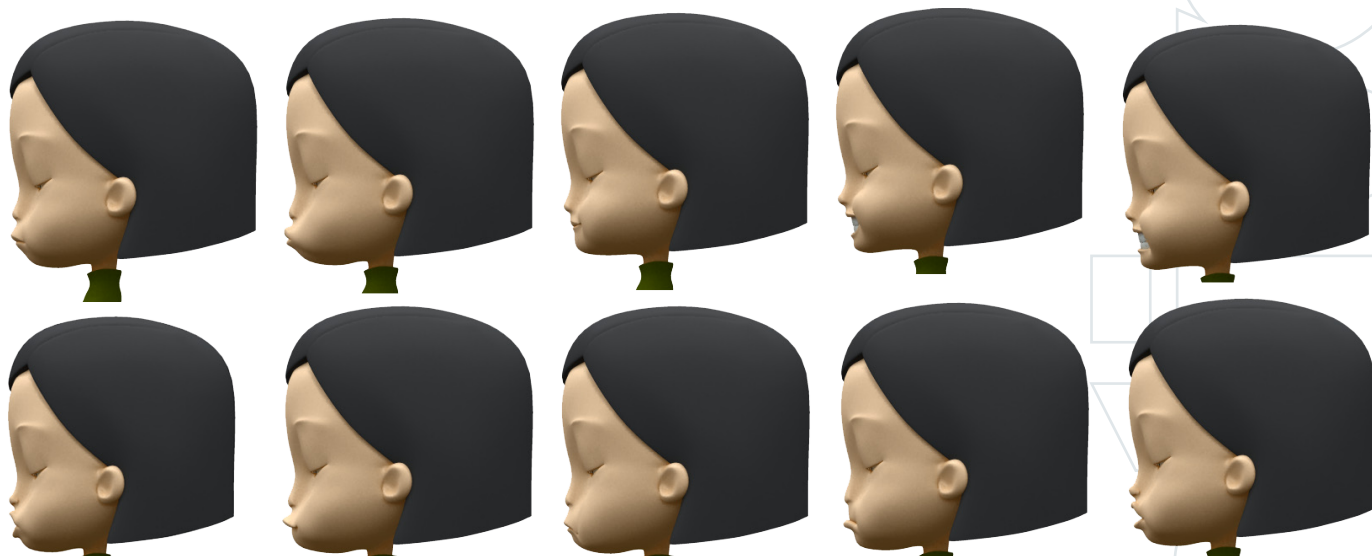
Do you think that the special effects industry is a very male orientated world and if so,how important is it for women to alter the balance ?
 I don't think this industry is male orientated at all. Companies want good artists and technicians and there are more men interested in CG than women, which makes us a very small part of the industry in comparison with males. But I don't think we should alter anything. Each of us has a different way of working, regardless of our gender, and so each of us contributes different things to the working process.

What are your favourite aspects of working in 3D and what do you find the most challenging? My favourite aspects are modelling and texturing but I believe that the greater challenge is obtaining a model with soul; one that is alive and that has something very special for the spectator´s eye.

You mention creating a model with "soul ". Do you think that digital painting will ever reach the status of "Fine Art"?

It is hard to tell what should be considered "art" and what shouldn't; it is the same with the term "artist". I think that anything that helps to develop the creativity and emotions of an individual, whether they are an artist or a viewer, can be defined as art.

13. Does Spain offer good support and education for people like yourself wishing to break into the CG industry?

Definitely NOT ! There are a few courses in 3D studio max for unemployed people, but these are brief and mainly orientated to architecture. There is no degree in 3D or courses exclusively dedicated to CG. If someone wants to work in this area, they are forced to learn by themselves with the aid of books, tutorials and hours of hard work or maybe pay for a private

course which helps them become acquainted with CG tools - but not many people can afford these unfortunately.

Interview by

RICHARD TILBURY
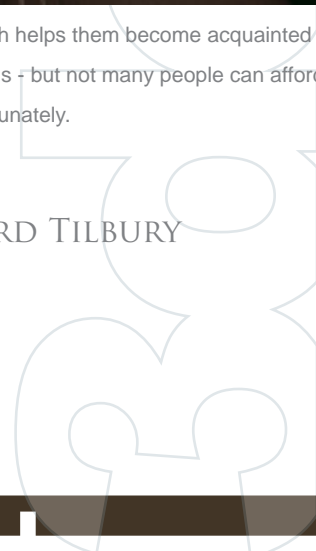
AN INTERVIEW WITH
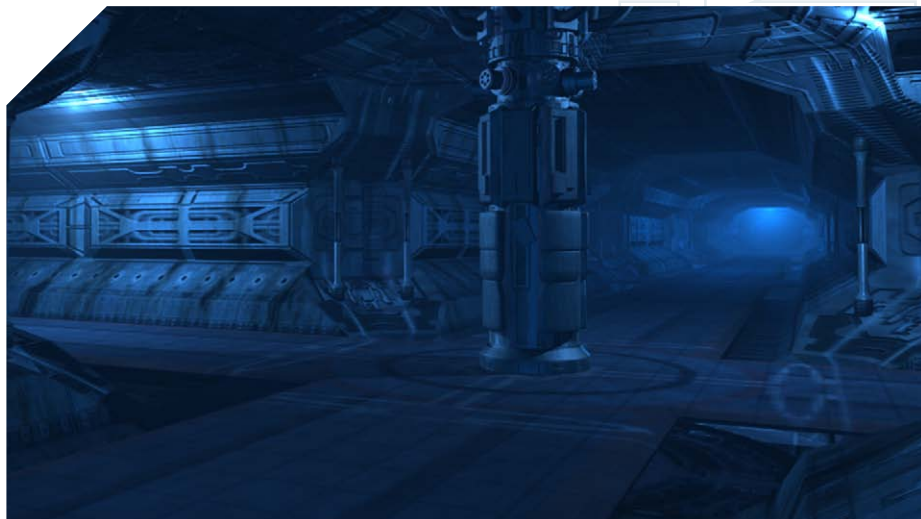# Matt Westrup

Studio : Asylum 3D

Name : Matt Westrup

Age : 36

Job Title : Digital Artist

Studio Size (employees etc) : 2 permanent plus numerous freelancers

Hi Matt. How was the studio formed and when?

The studio was formed in 1999 by myself and a fellow artist Robin Konieczny. We were traditional illustrators at the time, represented by Meiklejohn illustration. We had already switched from traditional media to the digital and decided to learn Lightwave to help out with the illustration. This led to joining forces and collaborating on a short film together

What was your experience (industry or otherwise) before forming / joining the Studio?

I was an illustrator mainly specialising in character design

What Projects have you worked on?

Robbie Williams'Let Love Be You Energy, BMW Mini commercial 'Martians', Monarch of the Glen for the BBC, Gorillaz at the Brits, Tesco talking Trolley commercials, Domestos 'Millions of Germs will Die' commercial, Discovery Channel Xmas Idents & Underworld Evolution (with Cafe FX)

What are you currently working on?

A new Domestos commercial

What Projects are being prepared for the future?

Oooh that would be telling! Seriousy, we are have something potentially very exciting but we cant talk about it at the moment
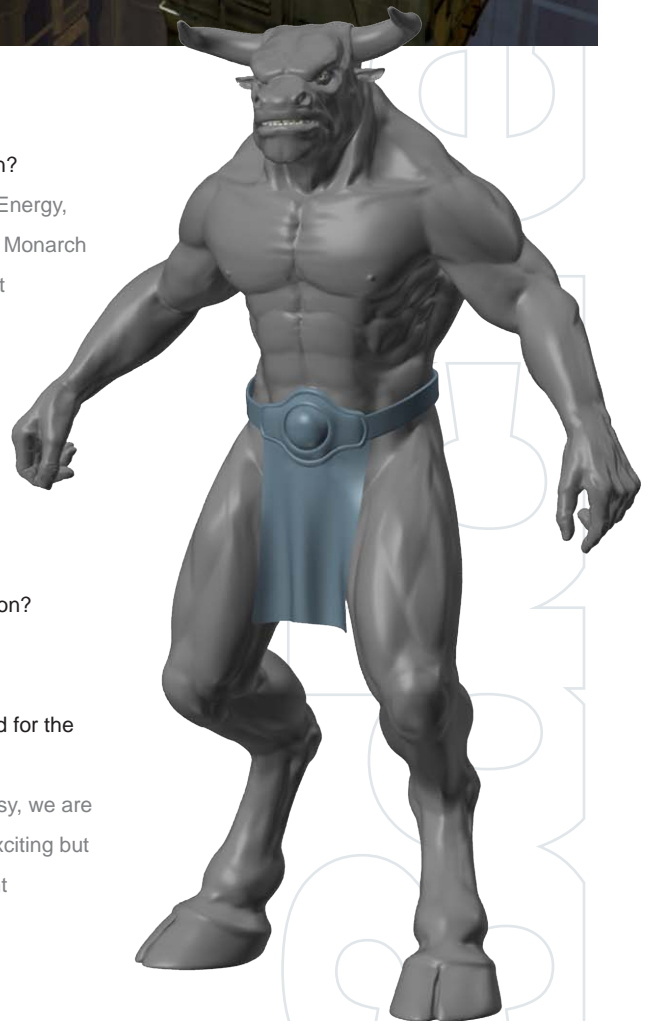
What has been your favorite project so far?

Difficult to say...they all have good sides to them.....the high profile stuff is alway exciting

You do a lot of freelancing work for other studios such as 'Passion Pictures'. How does this work affect the studio in a creative and workflow manner?

Well obviously it means we have a lot less creative control working and are able to take less credit for the job but the variation of doing our own jobs and freelance work, keeps things interesting

What kind of Studio atmosphere do you have?

One that involves as little stress as possible!!

What did you really want to be when you grew up?

I wanted to be involved in the FX business and have been lucky enough to do it!

What makes you get up every morning and go to work?

Fear of not paying the mortgage!! Its also in the blood....I love doing it!!

Whats the Audio track for the studio whilst working?

The Chillout channel on DI FM internet radio or a good blast anything by Hybrid.

If we spent a day following you around, what would we learn?

Well we consider ourselves as generalists so I guess you would get a good insight into a bit of each area of the FX process.

What would you change about the studio and why?

Although we are getting some, we would like to get more work where we oversee the whole project and have more creative control. Also we would love more processing power for rendering.....you cant have enough!!!

Whilst being interviewed by us, what should you really be doing?

Spending an evening with my girlfriend!!

Do you think there are too many questions in this interview?

No its about right.

What was in your portfolio when you applied for this job?

We had a short film that we showed to potential clients it can be seen in the 'Asylum' section in the 'Projects' part of our website www.asylum3d.co.uk
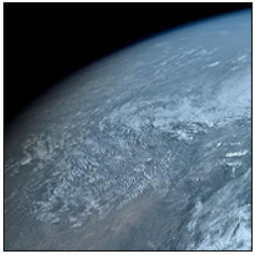
Ultimate goal?

We would like to do more movie work as so much of what we do is commercial based. For more information please visit www. asylum3d.com or email matt@asylum3d.com
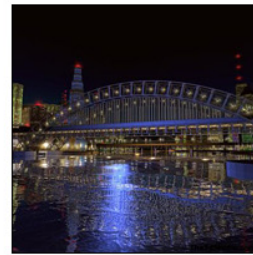
INTERVIEW : BEN BARNES

the curse of DarKastle

The spectacular, "next-generation" theme park attraction that debuted at Busch Gardens Williamsburg last year, has been nominated for Outstanding Visual Effects in a Special Venue Project at the 4th Annual VES Awards.

Attraction Of The Year :- "Curse Of Darkastle" Earns VES Nomination

HOLLYWOOD—Curse of DarKastle, the spectacular, "next-generation" theme park attraction that debuted at Busch Gardens Williamsburg last year, has been nominated for Outstanding Visual Effects in a Special Venue Project at the 4th Annual VES Awards. VFX supervisors Chuck Comisky and Brent Young, director Mario Kamberg, and VFX executive producer Dina Benadon are recognized in the nomination. This is the first time that the VES Awards, the visual effects industry's most prestigious awards competition, has included a category for Special Venue Project. Winners will be announced February 15th.

Curse of DarKastle recently received a THEA Award as Outstanding Attraction from the themed entertainment trade organization TEA. The ride was also named the Attraction-of-the-Year by Theme Park Insider. The attraction has been a smashing success for Busch Gardens Williamsburg, earning tremendous media attention and drawing hundreds of thousands of patrons to the park.

Curse of DarKastle marked a milestone as the first attraction at a regional park to feature immersive 3D graphics in a motion-based

dark ride environment. The 40,000 square foot attraction serves up a bone-chilling ride through a frozen Bavarian castle. Patrons ride in computer-controlled, motion-based "sleighs" as 3D imagery appears all around them.

All of the stereoscopic 3D imagery featured in the ride as well as the cleverly executed pre-ride film that introduces patrons to the sinister King Ludwig was produced at production studio, Super 78, the animation studio headed by Benadon and Young. Unlike many theme park attractions, Curse of the DarKastle is not based on any preexisting story or characters, but rather is wholly original.

The ride is replete with eye-popping 3D effects. Swords, knives and other lethal objects swoop toward riders' heads. The sleighs are jostled by ghosts that fly out of the screen. The ride also features one nerve-rattling drop, although a CG-induced illusion makes it seem as though the sleigh is plummeting farther and faster than it actually is.

"People love the action in the ride," said Benadon. "They also love being part of a totally immersive experience."

Recent projects include Curse of DarKastle, a 3D stereoscopic dark ride for Busch Gardens Williamsburg, a trailer for Disney's interactive game The Chronicles of Narnia, and visual effects for the Discovery special Supersonic. The studio is currently working on Believe for all three SeaWorld parks, a 1-hour television special for Animal Planet and an as yet untitled multi-screen video project for a major American museum.

Super 78 is located at 6900 Santa Monica Blvd., Hollywood, CA 90038. For more information, call (323) 464-7878 or visit www. super78.com.

Article Courtesy :

ARTISANS PUBLIC RELATIONS

Curse of DarKastle also represents a breakthrough inasmuch as it was produced wholly using digital technology and is projected digitally at the park. The use of digital media, rather than film as in other attractions, not only lowered production costs, it also creates the possibility of updating the ride in the future.

"Rides that are based on film cannot be easily modified without incurring costs beyond the budgets of most parks," observed visual effects supervisor Brent Young. "With this ride, we can change things or add new material quite easily."

Dina Benadon and Brent Young founded Super 78 in 1997. Since then, the company has developed a widespread reputation for creativity and service by embracing state-of-the-art technologies and infusing each project with a unique Hollywood aesthetic and fun, youthful appeal. Its multi-talent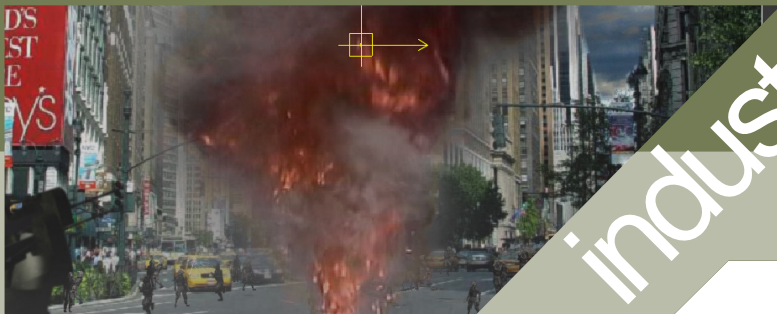ed team engages in a spirited collaboration with clients in a diverse array of high quality media projects including game trailers and cinematics, commercials, marketing media and special venue attractions.

COMPOSITING

Mixing Pyro Footage, photography and CGI to create a fully animated VFX shot in AutoDesk Combustion

BY HASRAF DULULL

Introduction

A lot of the visual effects shots seen in the latest Hollywood blockbusters are taken care of in a 2.5D solution instead of a full 3D solution. Today's compositing technology allows artists to work in a simulated 3D workspace, even though the data is all 2D (things like background plates, rendered out elements, passes etc). Compositing can take hours, days, or even weeks off heavy 3D production and rendering. If an artist knows the fundamentals of compositing in packages such

as Autodesks's Combustion.

The use of the 3D Camera in Combustion, as well as the virtual lights and the ability to set up depth of field using Z depth information and the RPF format, means that a shot can be refined and amended much quicker with no re-rendering required, More importantly it gives the artist more freedom to be creative with the shot and try out different things.

This walkthrough will highlight the features and techniques used in the compositing of this sequence and will only touch on the 3D area lightly. It will not be in depth, as the core of this walkthrough is about Combustion and not 3D Studio Max.

STAGE 1:
PLANNING YOUR SHOT

There are several ways to plan your shot. If you have loads of time you could do a post-viz of the visual effects shot, but in the case of this shot I just took the background plate into Photoshop doodled my ideas over it, and used the layers to try different ideas out.
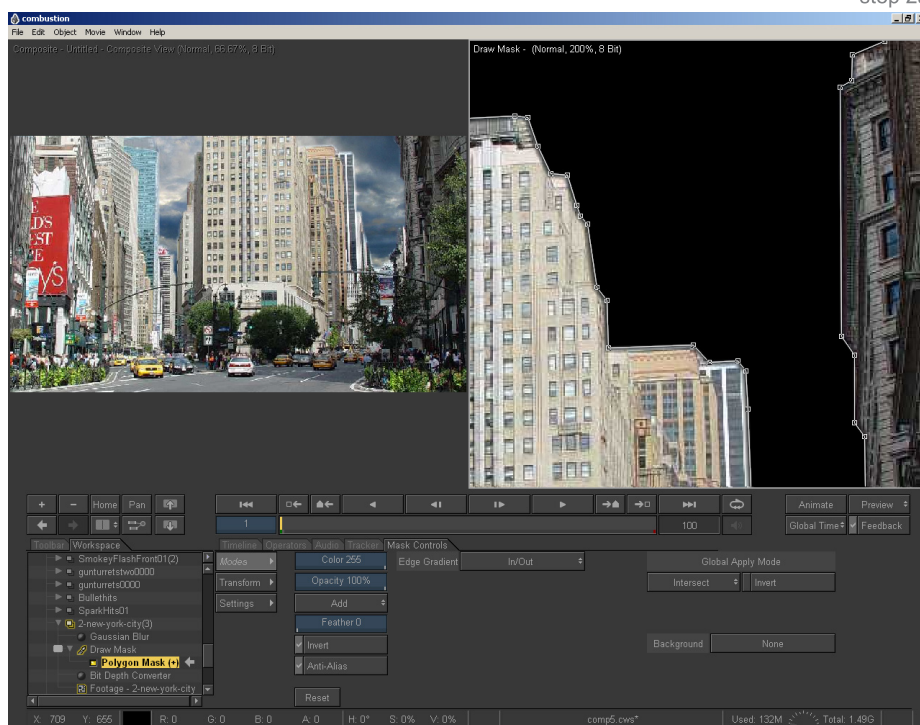
STAGE 2:
DEPTH AND SKY REPLACEMENT ON THE BACKGROUND PLATE

Using Combustion's Masking tools (Operators>Mask>draw mask) I plotted some points around the building edges to isolate the sky and then in the modes setting just clicked on "Inverse". Although the mask did remove the sky and revealed the sky I wanted behind it, it made the buildings edges look very sharp and stood out like a cardboard cut out. So to rectify that problem I used the edge gradient in the modes section of the masking tool to make the edges more softer and more natural. By moving the 'In' and 'Out' values I was able to get a good blend of the edges into the new sky making it look more seamless (step 2a).

Next I made the image more interesting to work with by using the Bit Depth Converter. This tool is usually used in film to get the depth information from a film scan and saving it in Look up tables (LUTs). But in this case, I used this operator to put some depth in the colours of the background plate. I then added a slight Gaussian Blur (value = 0.90) to make the plate look more atmospheric and filmic. Other thing I did to the plate was animated a slight twirl to the sky plate behind, to give a subtle sense of movement. (step 2b).
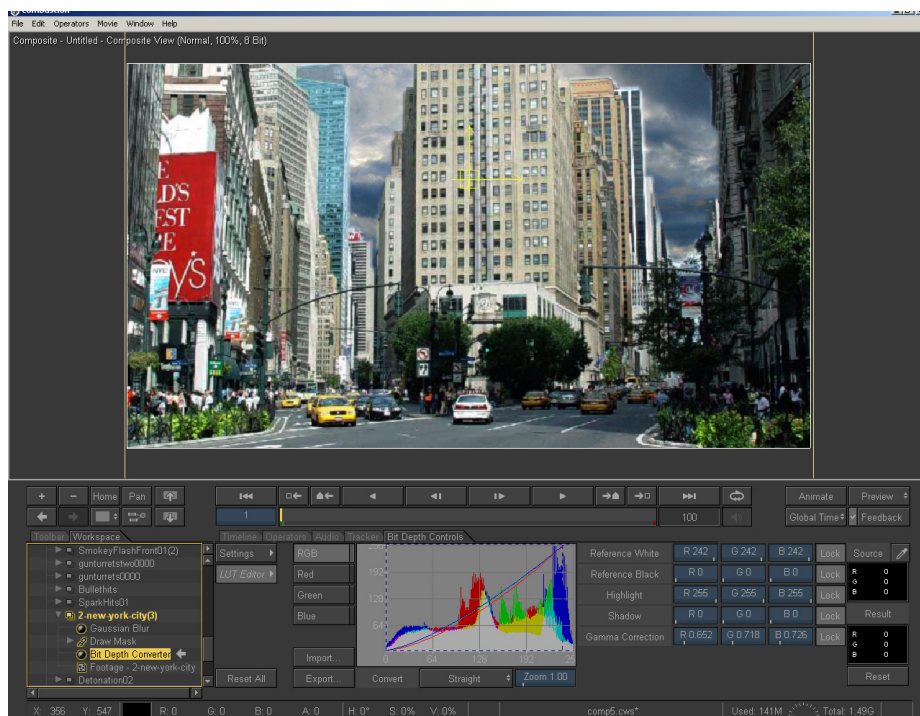
step 2a

step 2b

Stage 3: Populating the scene

Using 3D Studio Max 7 I was able to match my moving civilians and gun turrets by importing the background plate into the background of my camera viewport (views>viewport background). Using Character studio I rigged some basic soldiers and applied motion capture data of running and falling, using motion mixer to blend and time the running with the falling (and getting hit etc). The soldiers didn't need to be high resolution since the distance we are viewing them from would not show any detail on them. I then added a green self illuminating plane on the ground so that the shadows get rendered out. I also rendered out the length more than what I needed to so that I could offset movement when layering them in combustion (step 3a).

Once rendered out this was brought into combustion and keyed out. I didn't have the rendering luxury to render out loads of crowds in a single pass, let alone multiple renders of different crowd positions. Therefore, using compositing trickery, I created the illusion of random crowds by duplicating the rendered soldiers and offsetting the layers using the Timeline view. I then used the flip operator to make some crowds go the other way, and then scaled some of them to make them appear in the background with some Gaussian blur to create a depth of field effect. I also applied some motion blur on the soldiers but not too excessive as that would drain the processing when catching (step 3b).

To avoid the soldiers from walking over the bushes or into the cars in the plate, I created masks in Photoshop of the areas (the parked cars, bushes, lampposts etc.) and imported them as separate elements into combustion. I then selected the layer of the soldiers that were crossing those elements and used

the 'stencil layer' to select the masks, then switched on "Alpha" and Invert to hide the masks and allow the soldiers to not appear in the masks when they cross over. This created

the illusion of people running behind cars as well as in front of objects in the background plate (step 3c).

step 3a

step 3b

step 3c

Pro Tip
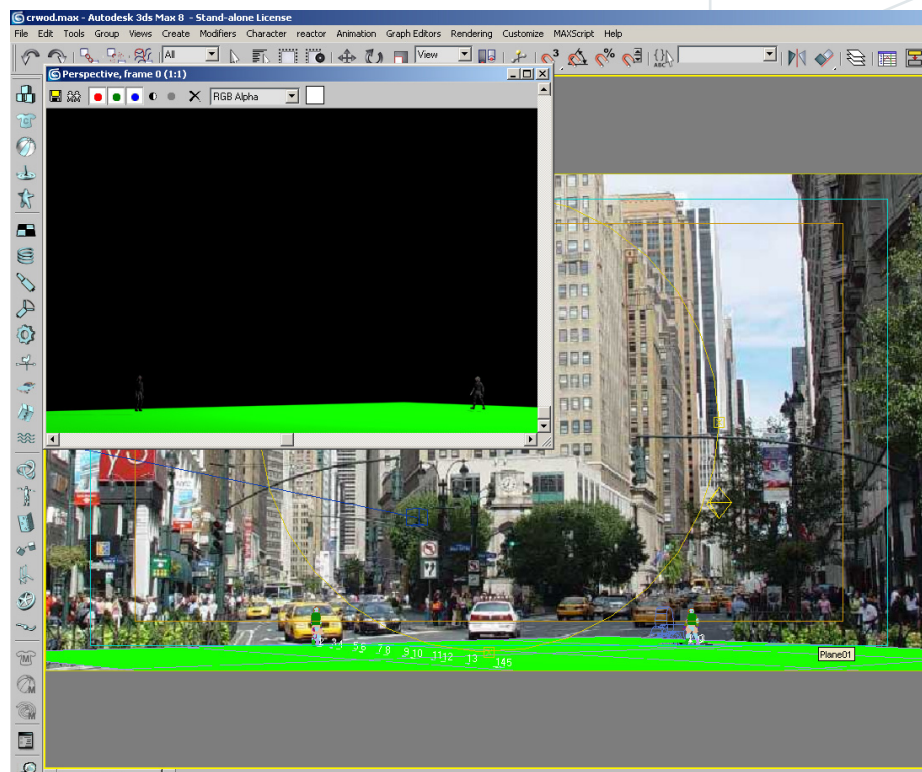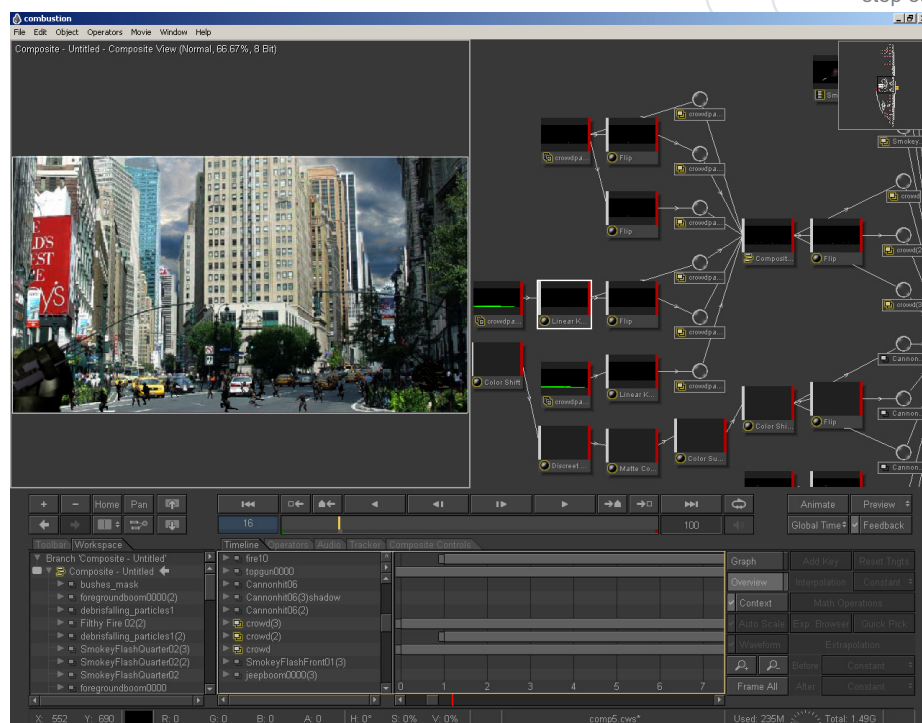
When your scene gets very heavy to manage in terms of layers, use the schematic view to turn things on and off and connect to different elements instead of using the layer view and timeline. It's a much faster and logical workflow (step 3d).

Stage 4: Using Pyro Footage

Creating fire and smoke convincingly in CGI is very difficult and time consuming. So therefore, because of the near photo realistic nature of the shot, I decided to use some Pyro footage courtesy of detonation films. First I had to prepare the footage in a way that it would be keyed out properly, bearing in mind we are keying out a blue sky yet retaining smoke and debris elements – very tricky!, but not impossible! (step 4a).

First I have to tell combustion that this is a video footage and that it contains interlacing data, so I went footage>source>Field Separation and selected "Upper Fields". When you do that you will notice the image is more cleaner with no 'banding' or lines. Next I applied a colour shift operator to the footage and increased the blue channel so that the blues dominate making it easier for the keyer to pick out (step 4b).

Using the Discreet Keyer I keyed out the blue while controlling the tolerance level ensuring that details are not lost as I increase the tolerance levels. But there was still a shade of blue in the footage, so using the

step 3d

step 4a
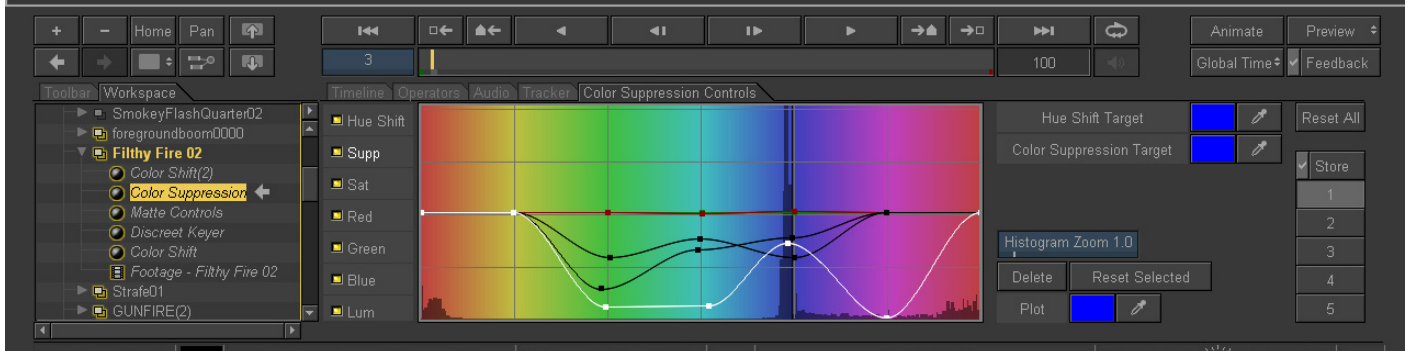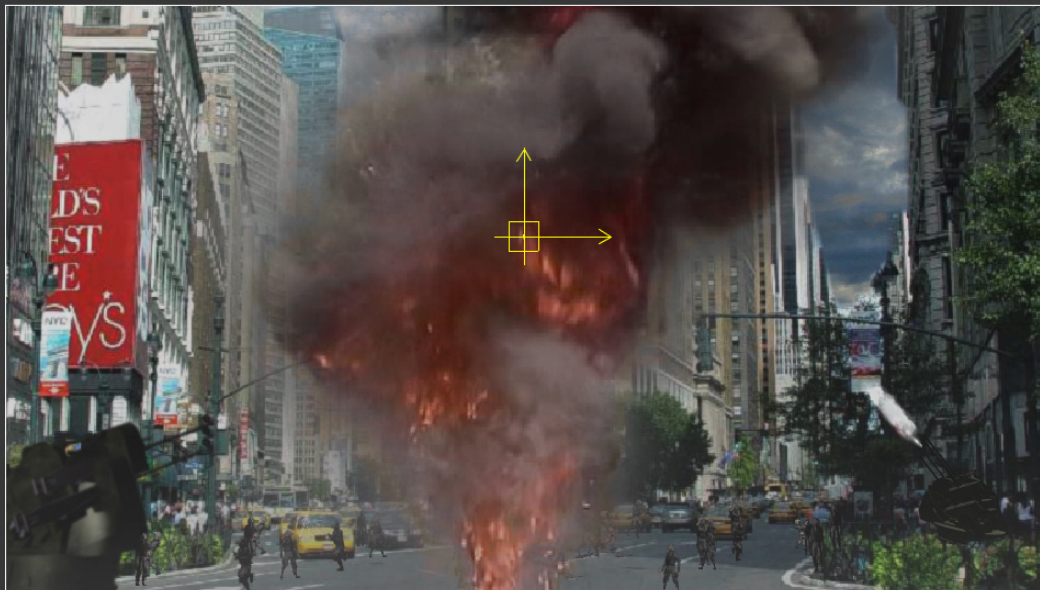
step 4b

step 4c

colour suppression operator I was able to suppress the blues and other colours that were conflicting in order to get a cleaner clean and still retain the detail in the smoke. Another colour shift operator was then used to clean up (step 4c).

step 4d
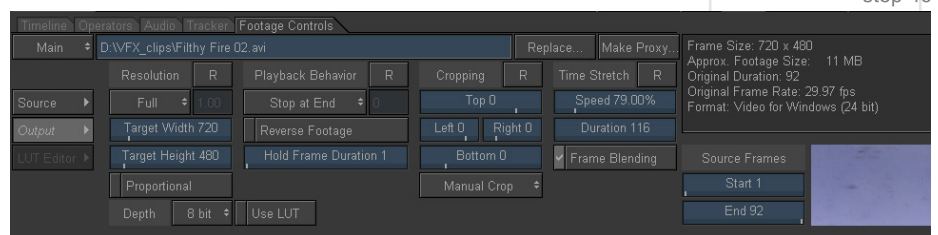
Pro Tip

Most Pyro Footage is shot at very high speeds, so make sure you slow them down to fit your shot. Sometimes they are rendered out in a specific codec or frame-rate which does not match the other sources of your composite, so its best to adjust the settings to fit your speed, frame rate and then render out as a sequence of uncompressed TIFFs, or whatever format your other elements in your composite are (step 4d).

Stage 5: Adding more Pyro Footage mixed with rendered animated CGI elements to make the shot alive and believable

To use the Pyro Footage, such as smoke for atmospherics, you can just apply the footage as 'Screen' or 'overlay' to blend it into the scene. Animating the scale slightly really does enhance the movement of the atmospherics in the scene, even it its just subtle. The idea

of this shot is to provide a 4 seconds scene that would fit in a war scene or look like it has been taken from a Hollywood blockbuster war film. We only have 4 seconds, so in that 4 seconds we need to convey enough detail to sell the shot convincingly, not going excessive with detail, but then again making sure we are not lacking the required detail too. The approach I went with was to have as much photo realistic elements in the shot as
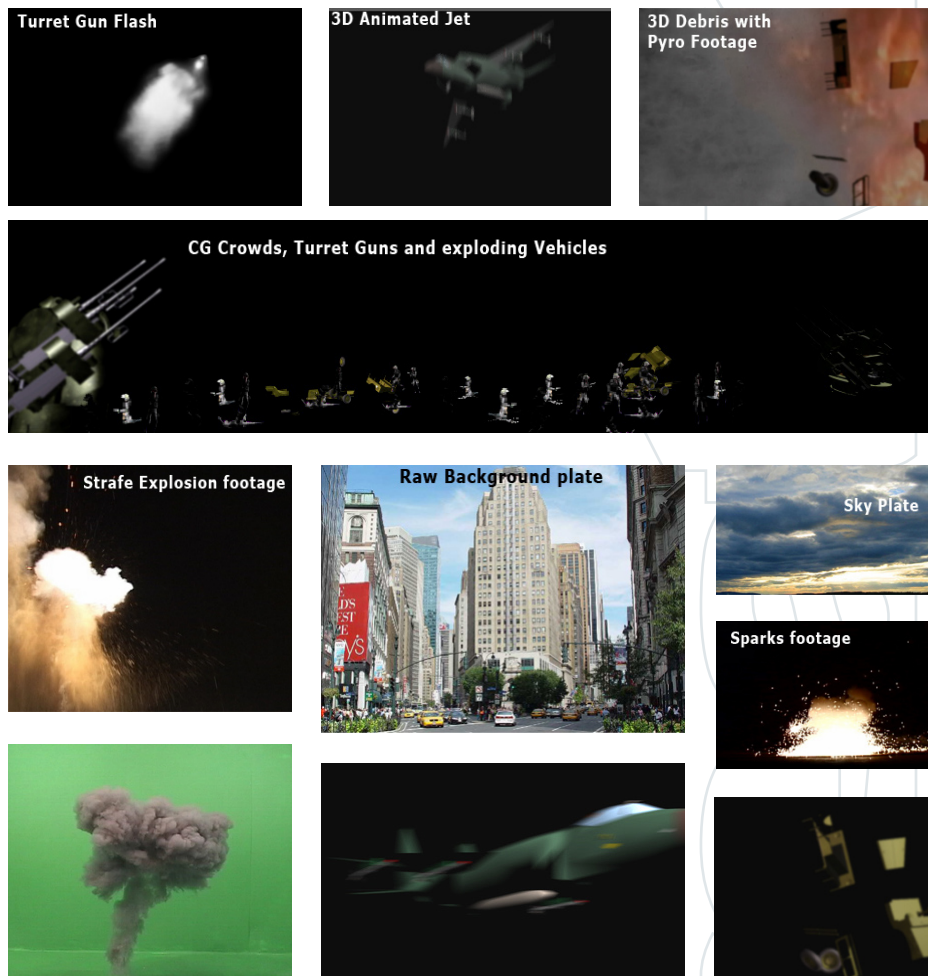
compositing

possible and some dramatic animation with the pyro footage and vehicles exploding, jets screaming past and obvious crowd animation – the recipe for an attack sequence! The rest was in the composition and grading. Its all about what the eyes take in first; the illusion of creating something that looks grand and epic with minimal content, but just in the way you present that content (step 5a).

STAGE 6: CAMERA SHAKE AND VIRTUAL LIGHTING

The next vital and final animation to make the scene more dramatic and convincing is the post- animation of the virtual camera in combustion. This is where the 2.5D solution is created, allowing you to use combustions compositing space as a 3D workspace and allowing you to move the camera in X, Y and Z directions. Animation of the camera shakes, panning and dolly was key-framed and then controlled via the Bezier handles (marked green) to smooth the movements. Also, the use of the graph view, as apposed to the overview, was used to control the speed of the camera animation. The same applies to the virtual light (note you can actually apply more than one virtual light to light your 2.5D composite). I used the virtual light to blend all the elements into a single look and other virtual lights to act as explosion and gun fire flashes by animating the light over the areas of the action. This was done in a subtle fashion in order for it not to detract from the actual lighting in the background plate (step 6a).

STEP7: GRADING AND SETTING THE MOOD PALETTE OF THE SHOT

Now that the compositing is done I rendered that out as a first_composite pass in a sequence of uncompressed TIFFs. Next I created a new workspace specifically for the finishing and grading stage only. I needed to apply some sort of finishing and grading

Turret Gun Flash

3D Animated Jet

3D Debris with Pyro Footage

CG Crowds, Turret Guns and exploding Vehicles

Strafe Explosion footage

Raw Background plate

Sky Plate

Sparks footage
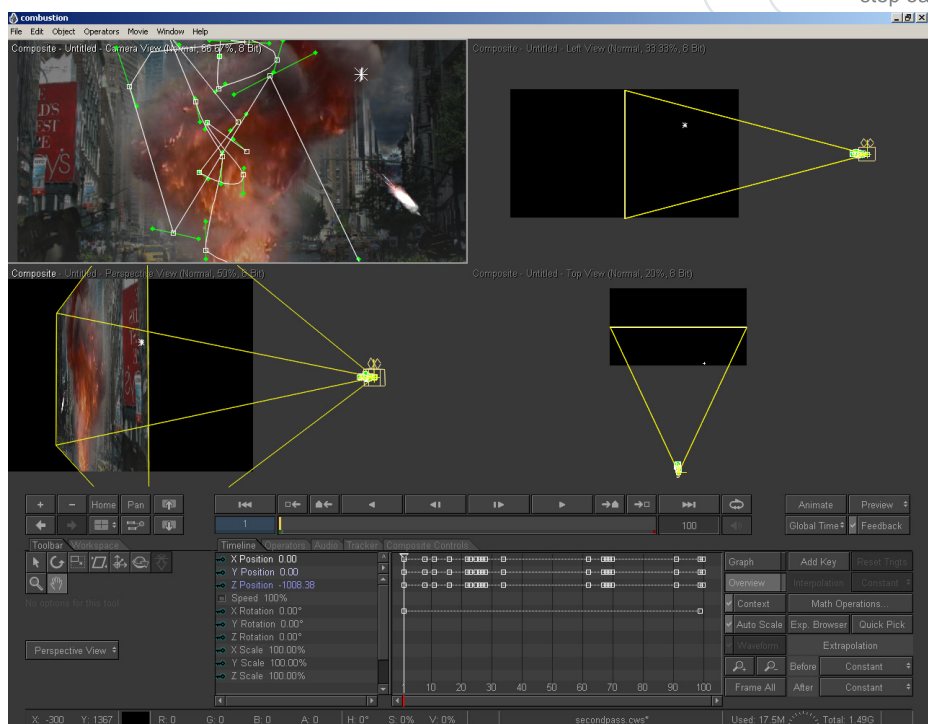
step 5a

step 6a

step 7a
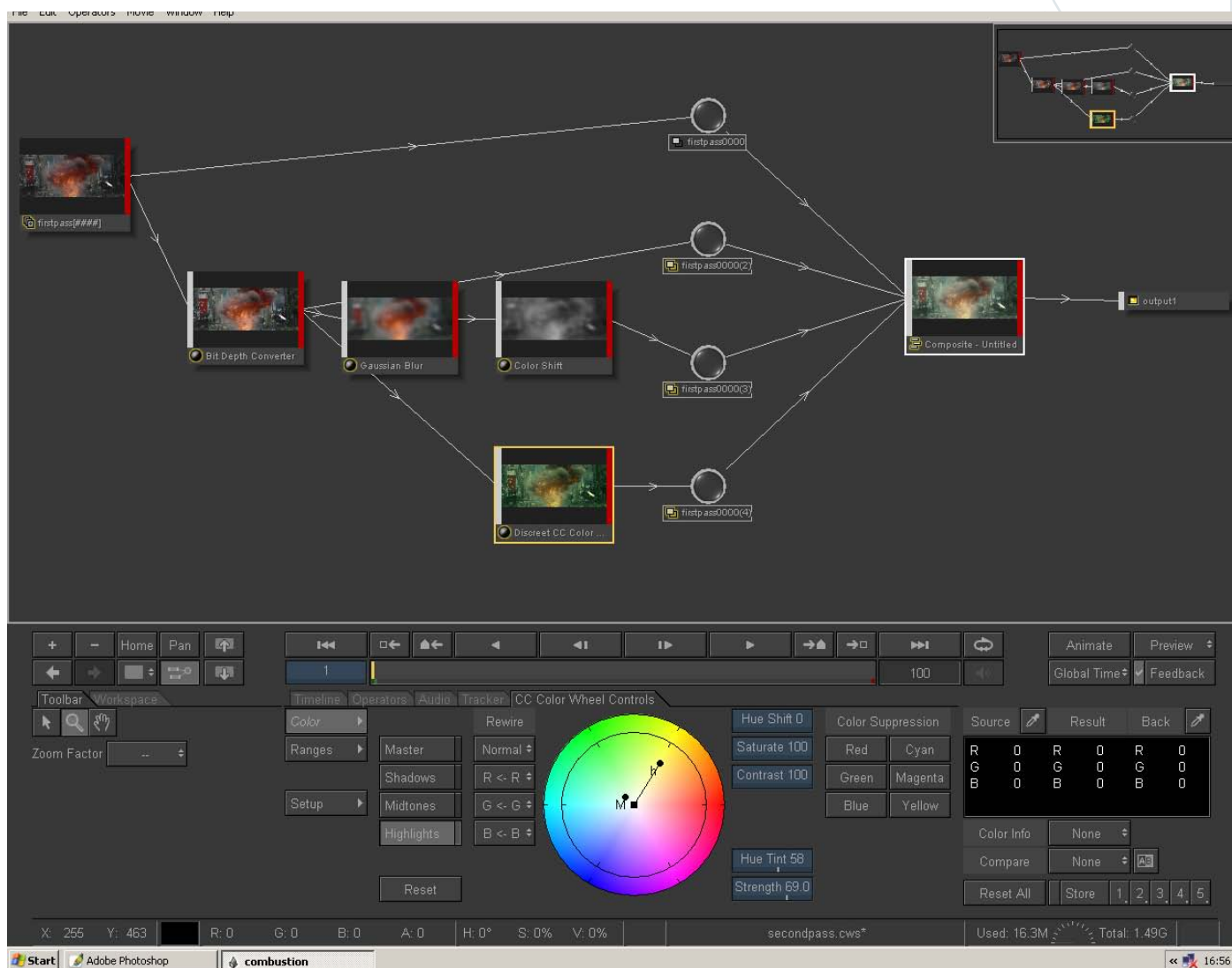
to the shot. First of all the shot at its current state didn't have a complete feel to it in terms of atmosphere and depth so I duplicated the scene (layer) into 3 layer; the first one I left as it is, the second one I applied a Gaussian blur to it at an excessive value, blurring it almost completely, then I made that as 'screen' transfer mode. Then I made the top layer as a 'darken' transfer mode and tweaked the opacity of that layer to reveal the soft look to my desire.

On the each of the layers I applied a separate Discreet CC Colour Wheel Operator to enhance certain colours and to also add a wash of blue and yellows in certain places to

give it a more filmic look. Lastly I added some film grain to the shot, very small amounts but enough to give it a more rough and gritty film look when in motion (step 7a).

Bio

Hasraf Dulull (aka - HaZ) has worked in Post Production, CGI and Video Games for over 5 years; he is currently an Experienced Marketing Artist at Codemasters in the UK working on FMV Cinematic sequences for next-gen games. In his spare time he can be found writing articles for several magazines, contributing to forums about VFX and compositing and currently working on personal projects involving photo real visual effects.

You can download the movie clip of this scene here - Building Breakdown

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STARDUST'S TALENTS SOAR IN NISSAN MURANO CAMPAIGN FROM TBWA\CHIAT\DAY LOS ANGELES

HOLLYWOOD—(Feb. 17, 2006)—Bicoastal creative production company Stardust Studios recently delivered the third spot in a high-profile broadcast campaign for the Nissan Murano and TBWA\Chiat\Day Los Angeles. Directed by Stardust's owner and executive creative director Jake Banks, the first spot entitled "Soar" broke in Dec., "Glide" debuted just before Super Bowl XL and aired during ABC's Super Bowl Halftime Show, and the third spot – entitled "Fly" – began airing nationally this week. Stardust also provided design, live-action production, animation, editorial and visual effects for the campaign. Each of the spots uses a stylized approach to showcase how smoothly the Murano's Xtronic continuously variable transmission (CVT) operates, featuring the vehicle inside of an animated world transforming into a bird in "Soar," a manta ray in "Glide" and a paper airplane in "Fly."

After receiving the agency's request for proposal, Banks and his team created a written treatment, in-depth storyboards and a series of motion tests, all of which helped to land the job. Upon award, the team began previsualizing the camera moves for the live-action shoot, building a 3D car in Maya and
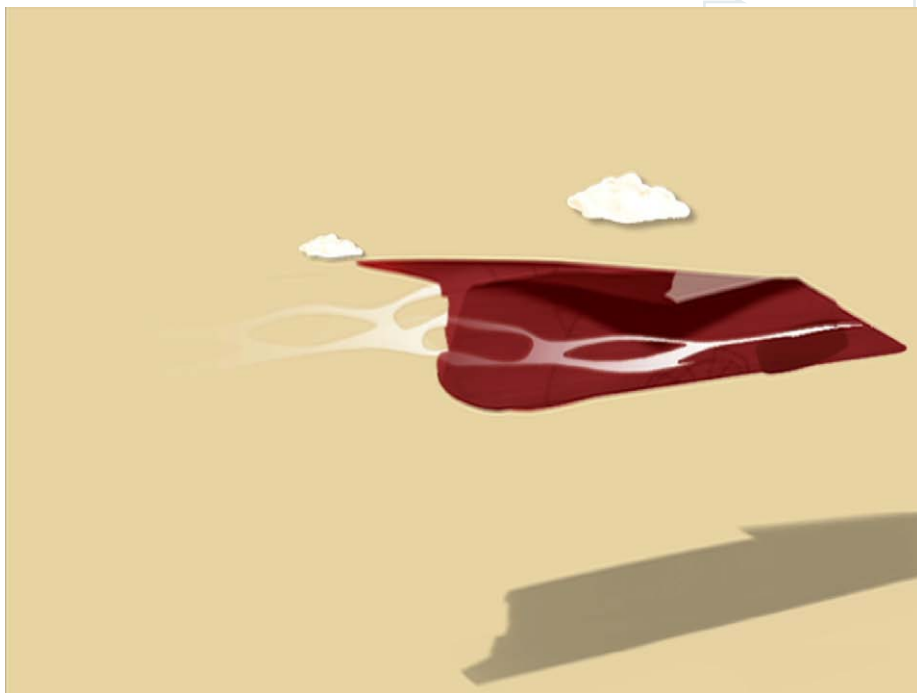
moving the cameras around to match camera- car and helicopter perspectives.

Filmed with the assistance of director of photography Neil Shapiro, Banks used a camera car, a helicopter, and locked-down mounts to capture the shots and get the angles necessary to match his storyboards. "We had to shoot the car in a way that would be in-tune with the animation that had elements of flowing, soaring and gliding," he said. "The way we approached the project – doing extreme dynamic camera moves – allowed us to be more free with animation."

Meanwhile, Stardust's design team used Maya to create 3D models and fluid animation of their bird, manta and airplane. Next came the transitions from the Murano into and out of the animated sequences. "We actually presented a lot of ideas to the agency to ensure those transitions exceeded everyone's expectations," Banks added.

The creative team for TBWA\Chiat\Day Los Angeles included executive creative director Rob Schwartz, creative director Joe Shands, associate creative directors Mike Yagi and Chris Lynch, art director David Steinke, copywriter Robin Fitzgerald and producer Carrie Schaer.

Along with Banks and executive producer Eileen Doherty, Stardust's team also included editor Tony Hall, live-action producer Rich Kaylor, post producer Erin Sullivan, lead animator/VFX supervisor Shane Zucker, art director P.J. Richardson (on "Soar"), designers Kinda Akash and Neil Tsai, and animators Joseph Andrade, Chris Eckhart, Scott Signore, Ian Townsend, Ash Wagers and Moses Journey. A complete campaign credits listing is available upon request.

About Stardust Studios
Stardust is an award-winning, full-service creative production company, specializing in motion design, animation, visual effects and live-action production. Led by executive creative director Jake Banks, Stardust's Santa Monica and New York offices continually redefine cutting-edge aesthetics for commercial, on-air, music video and in-store presentations. Their recent work – including projects for the world's top ad agencies, brands and recording artists – has earned numerous awards and worldwide editorial exposure.
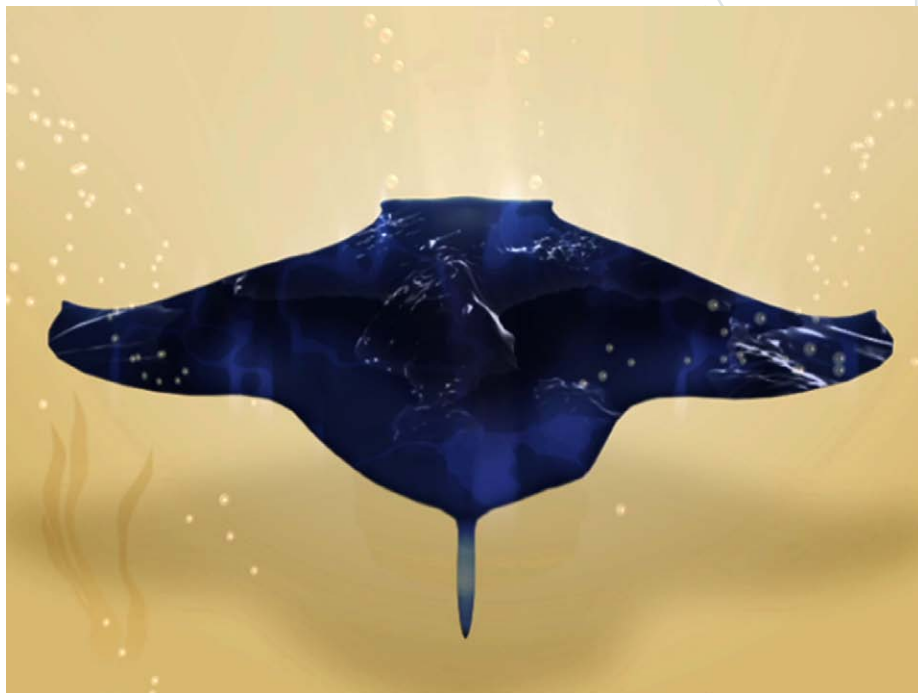
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For more information, please visit
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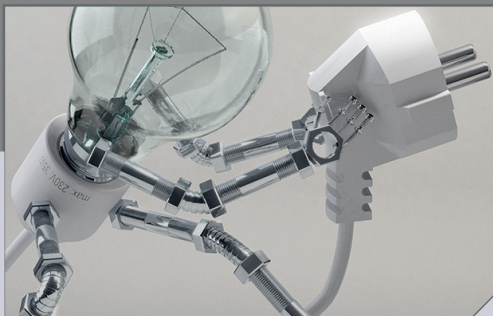
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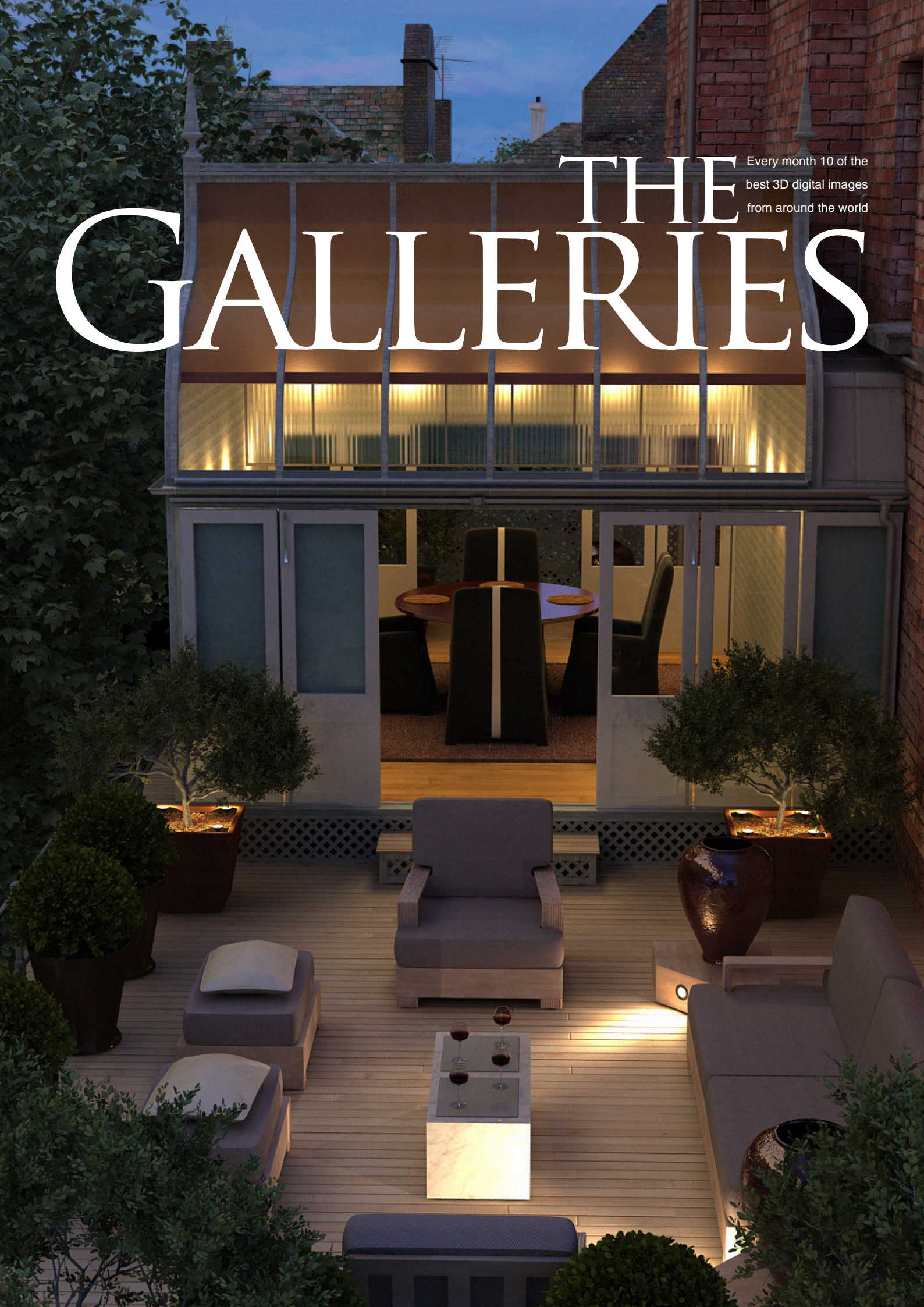
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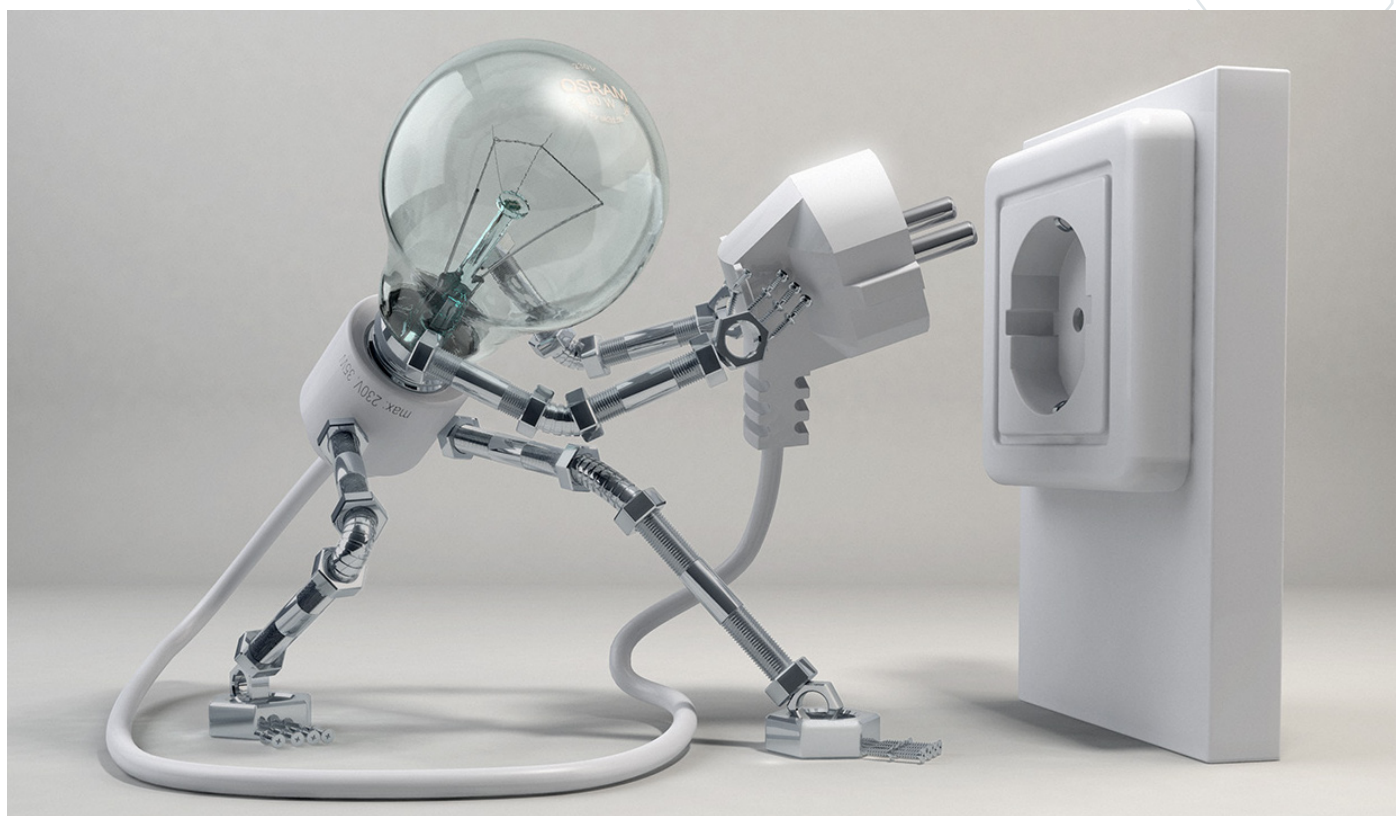
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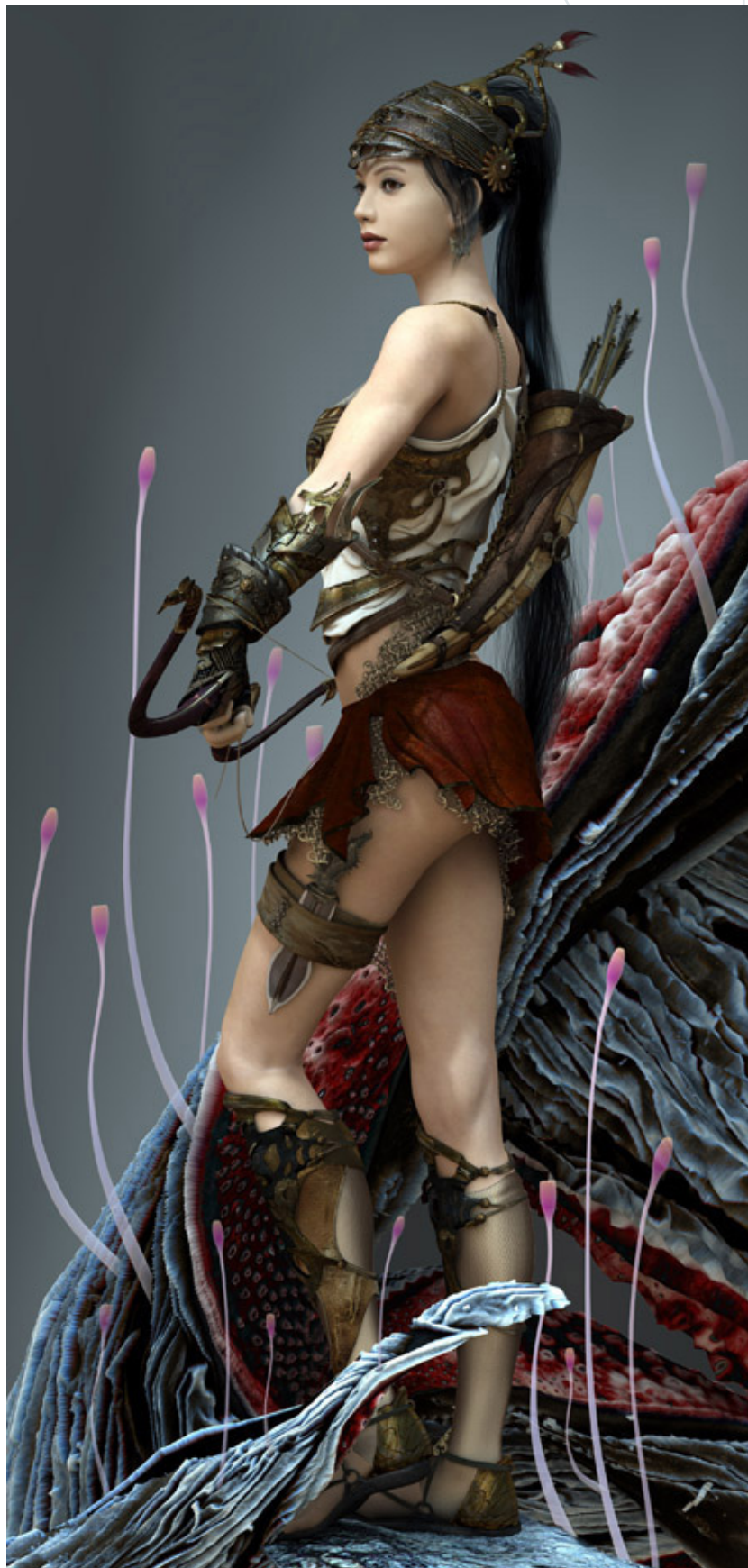
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Zoo Publishing presents the new issue of **2dartist** magazine a downloadable monthly magazine for concept art, digital & matte painting for only **$4**US

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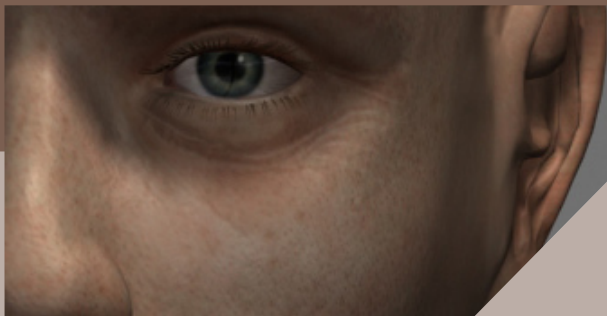
TEXTURING A
HUMAN HEAD
PART 2

This chapter is aimed at showing one way to go about painting a texture intended to be mapped onto a 3D model of a human head.

Human Head Part 2

Once we have our Main skin base we can begin to build up our texture using the Wireframe as a guide and two of the main layers that will help give our character some definition and flesh out the form are the Shadows and Highlights layers. These are the two layers I prefer to establish early on as they have a large influence over how the model will look as well as helping to give it volume and form. As a general rule I set the Shadows layer to Multiply and select a colour similar to the background in this case RGB 173, 145, 128 and then proceed to block in the main areas. When doing this I usually Imagine an ambient light source somewhere above the character not unlike the kind you may find outside on a dull afternoon and then place shadows accordingly ie. in the eye sockets and under the nose and chin. Although we could rely on scene lighting to create the shadows and leave the template very flat, I find that building this information into the texture in a subtle way enhances any lighting effects across the face and also adds a little more drama and solidity to renders without detracting from the realism. With this layer in place we can get on and paint in the Highlights on a seperate layer which we will set to a Screen blending mode or alternatively a Soft Light. For this part I use a colour that is similar to the overall skin tone something along the lines of RGB 201, 155, 128 and then concentrate on areas like the front of the nose, under the eyes and any of the near most faces such as the eyebrows and chin. With the colour selected I begin blocking in the relevant areas making sure that the opacity of the brush is set at 100% so that the tones are consistent. If you are in possession of a Wacom tablet here it will be a bonus as it allows pressure sensitive options unavailiable to a standard mouse and so makes varying the

opacity and tonal values far more manageable and gives the user more versatility. If after finishing the highlights you feel as though they are too bright you can always turn down the layer opacity in the layers window. When all of this is done and you feel happy with the results you can apply it to the the model and see the differences compared to the skin base without any shading (Image 01-02).
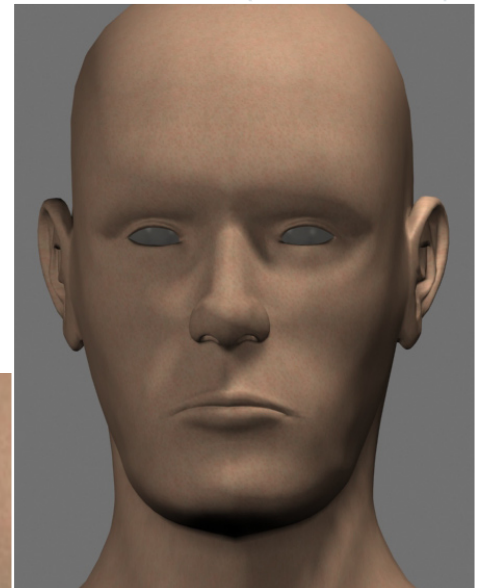
A method that I find useful when painting facial textures is to block in the main areas at the beginning such as the ones in the list above as this gives me a good feel for the face as a whole and helps when trying to decipher where any problems might be occuring. It is easy to get carried away on incidental details and loose sight of the overall picture but if in the case of this texture we paint in the lips, eyebrows and lighting then we can get an idea early on how it will eventually look and avoid spending time on aspects that may appear wrong had we not got all the components in place. So the next step will be to paint in the lips which we do by simply selecting a dull red similar to that seen in (Lips) and painting in the rough shape adding some shadow under the top lip and a few highlights along the
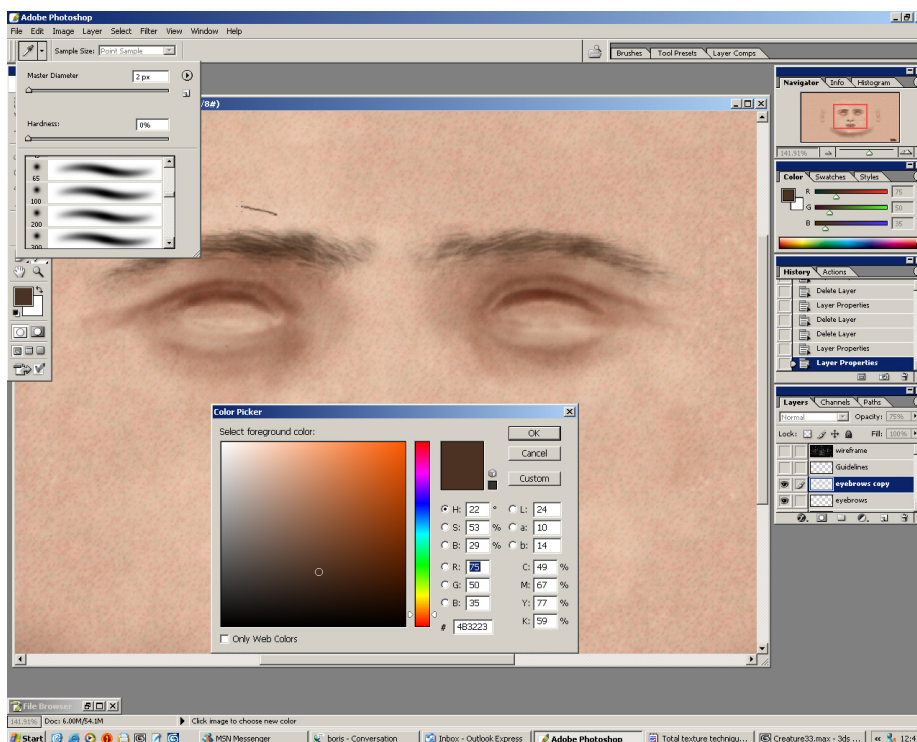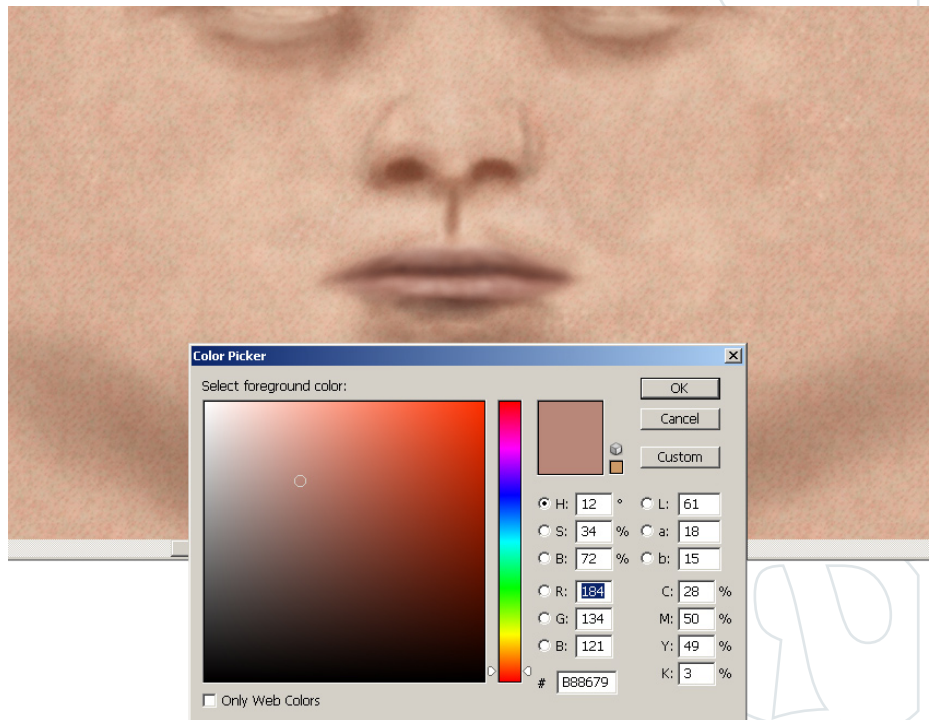
lower one. It is just enough at this stage to approximate the detail and just get the shape in the right place and we can refine it later, in the meantime we can get on with painting the eyebrows. I have chosen to give my character a dark complexion and therefore brown

eyebrows with an RGB value around 75, 50, 35 and using a two pixel width airbrush begin painting in short strokes in a semi random direction (Eyebrow). You may find that the lines appear too harsh and pixellated but don't worry too much at the moment - just get

enough drawn on as you can always soften them later using the smudge tool or even a little blurring. Also don't be too concerned with them looking perfect at this stage or the fact that you may have painted too many as using the eraser later to thin them out is an effective method of getting them to look right. I tend to paint a large group quickly and then spend time tidying them up later and remember that every single person is different and no matter how strange your eyebrows look there will be far stranger ones across someones brow somewhere in the world ! One small rule of thumb to bear in mind is that eyebrows are often darker in the middle so fading them out toward the edges can generally create a convincing look and it is also worth painting the two seperately as opposed to copying one across because any form of symmetry will lessen the sensation of realism. Once these are done do a few test renders and move them around until they appear in the right place. The next important aspect to our character that is required is the hair on the head and evidence of stubble across the chin. There
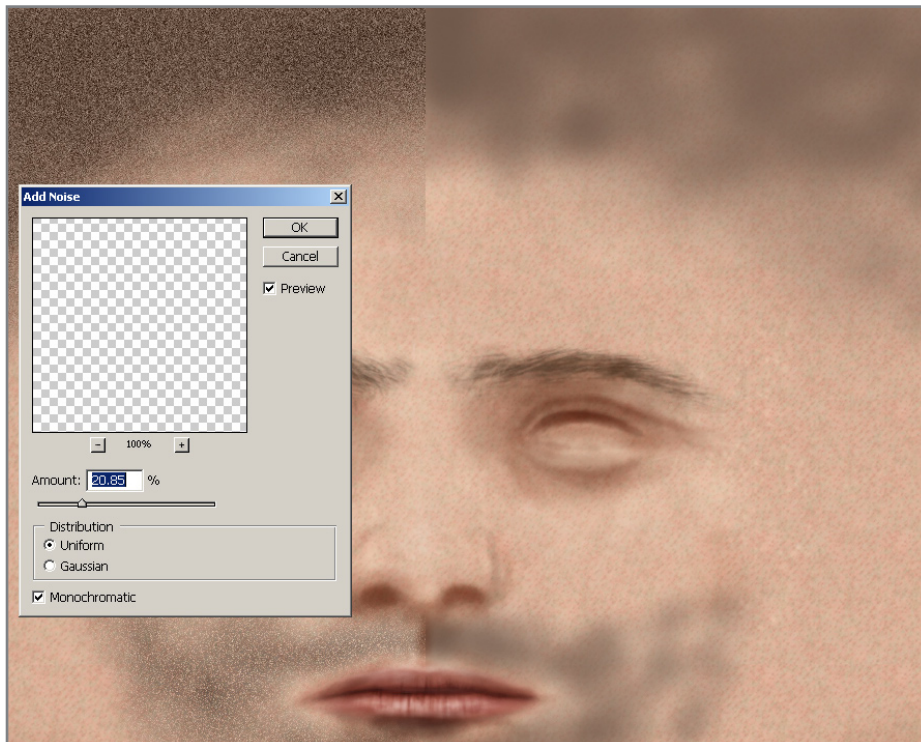
are many plugins that can be used to simulate realistic hair but for the purposes of this chapter and to keep things simple we will be giving our man a shaved scalp and so will not need to worry about modelling issues. We will use the geometry that already exists and just paint the hair on the template. First step is to select a suitable colour which in this case is a mid brown (RGB 110, 87, 73) and then paint in an area that covers the top of the head and fades out at the edges. It is best to paint this section using an airbrush and do not worry too much if it is uneven, in fact it is better if it looks inconsistent as it will be more convincing. When you have blocked in the main areas apply around 20% noise and then set the layer mode to Multiply at about 65% opacity and you should end up with something similar to the left hand side as seen in (Hair). This method can also be used to create the stubble with possibly some bolder marks to implicate different length hair - maybe also using a duplicate layer with a little blurring to emphasise them. With this part of the process complete we can progress on to adding in

wrinkles as these will give our face some character and areas of interest. When drawing in wrinkles be sure to concentrate on areas where creasing occurs, particularly around the eyes and forehead and remember to keep them subtle unless you are modelling an older character. In our case he is a reasonably young man but showing some evidence of

his age and so we will add a few lines but nothing to suggest he is approaching middle age. Once again on a seperate layer this time calling it "wrinkles", start painting in some lines using a small airbrush set to a similar colour to the skin tone and try to follow paths where you imagine creasing to form as seen by the guidelines in (wrinkles). I find when trying to get this aspect to look authentic or just trying to get a decent skin texture for that matter it is useful to sit in front of a mirror and use yourself as a reference. When you are satisfied set the layer mode to Multiply at 100% and then add another layer set to Screen mode. Using a colour similar to RGB 217, 171, 146 simply trace under the initial wrinkle layer in order to create the highlight and therefore giving the illusion of depth. We now arrive at a stage where the main components of our face texture are in place and what we need to do now is begin to improve upon what we have layed down already and add further embellishments to areas like the lips and skin. Because we have been working on the head texture as a whole we have a much clearer picture of how our character will eventually look and therefore what needs to be done

little rougher. The next step is to create some lighter blemishes which will appear as slightly different coloured patches across the skin which we will do by selecting a light orange colour RGB 215, 141, 108 and then with an 8 pixel airbrush begin making a series of randomly placed spots across the face making sure to vary the sizes somewhat. If we look at (Pale_Blemishes) we can see the final results on the right of the picture set to Screen at 43% opacity and on the left, the colours as they were initially painted. At this point all we are doing really is adding a few layers of scattered details that will break up the consistency of the skin and help convey a more organic feel. It is easy to go on making layer after layer and creating a more complex level of detail and as long as each step is under rather than overstated there is no reason why we couldn't make many refinements over and over again. For the purposes of this book however we shall limit the number to just enough to get the texture to a respectable standard. Having altered the skin tones somewhat it is time to paint in some small spots which we shall do using a small airbrush once again using a colour similar to RGB 165, 109, 82 with around an 8 pixel size brush. Concentrate mainly on areas surrounding the main features

to complete his final appearance. If we had concentrated on a single aspect such as the lips or eyebrows we might have found when it came to putting all the pieces together on the model the face did not look right. It is a good idea to put a provisional texture on the eyes at this point as they are perhaps the most important attribute on the head and the area where most people will focus their attention. It is also a key factor in creating a convincing character and the nucleus around which the success of our model / texture hinges. If the eyes look wrong then it doesn't matter how good our skin texture looks - the model will always fall short of the mark. Although we began this tutorial with a detailed tutorial on painting a skin texture this was ultimately only a base and even with the many variations and layers it will still have a very generalised and consistent look when tiled across our model and so we need to further improve it by way of additional layers that break up the tones and include blemishes and colour changes etc. One of the first things we can do is apply some reddish tones to certain parts of the face as human skin is quite transluscent especially when looked at in front of bright light. The skin around the eyes for example is very thin and as such reveals the blood underneath and

thus appears far redder than other parts of the face as well as the front of the nose and particularly the ears which allow some light to show through the skin. So with this in mind select a pale purple colour similar to RGB 198, 132, 142 and begin painting in sections around the nose, eyes and ears and then set this layer to Screen. You can see in (Red_Tones) that the section on the left has been left as Normal revealing the colour and areas that have been painted compared to the modified half on the right. You will notice I have also added a few random patches across the face particularly around the chin where the skin may be a

texturing a human head

as these will attract the most attention and vary the opacity if you like and when all is done set the layer mode to Darken at about 25%opacity. If we look at (Spots) we can just make out the finished layer on the right compared to the original before it has been altered on the left. Once again, the layer may seem barely noticeable and not worthwhile but it is the combination of all these that create the completed effect and it is not solely down to any one in the end. The final layer we shall create in this section will show evidence of some freckles which is self explanatory and shall be named accordingly. This time we shall vary the size of the marks and opacity to give them more realism. Brush sizes should vary somewhere between 2 and 20 pixels and should display different levels of opacity using a brown-orange colour with an RGB value around 170, 94, 61 as illustrated in (Freckles). As in the last example we can see the initial unmodified layer on the left hand side of the image before it is set to Multiply at about 38%

opacity. This about sums up the painting stage of the tutorial and hopefully will give you a good foundation on which to experiment and go on and paint your own versions.

Tutorial By

RICHARD TILBURY

Physical Light

I know many people are using the physical_ light. Usually they use it with the intention, well, to obtain physical correct renderings. I'm sure most of them dont know that sometimes they put the fox in charge of the henhouse this way. Why this? First, physical_light does cause problems when used together with maya standard shaders, like maya blinn for example. Here's a rendering with raytracing set to on, the material is the default maya lambert, the light is a physical_light with intensity 200,000 attached to a maya pointlight:
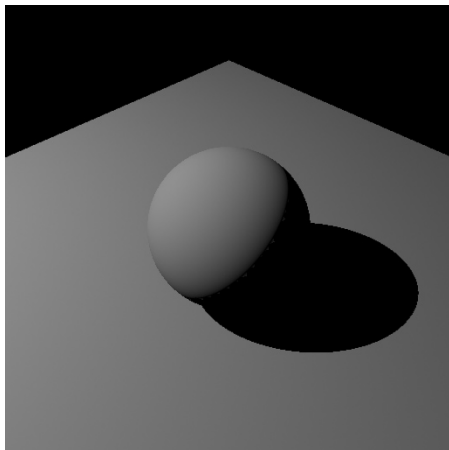
Looks good so far, but what happens when raytracing is turned off? Here's an example:
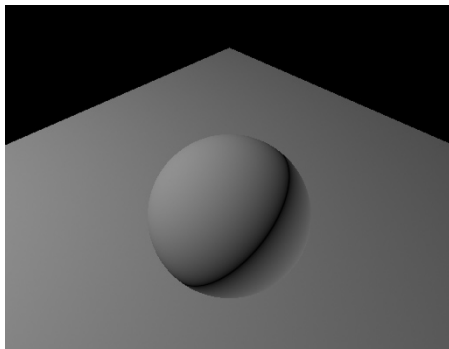
What's that illuminated rim around the lower right of our sphere? Looks like physical_light shades both sides of our object, regardless where the normal is pointing at. Hm, let's see if the problem persists if we use mentalray shaders instead of the maya lambert:
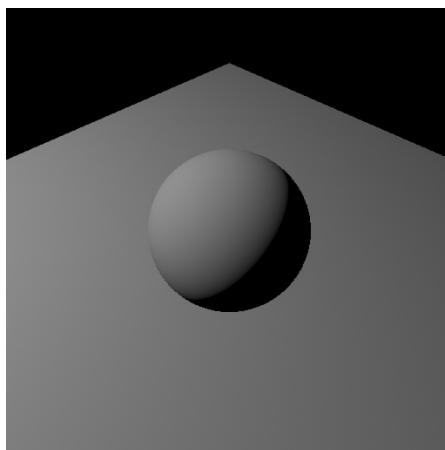
Apparently it renders correct. So, if you plan to use native maya shaders instead of custom mentalray shaders, physical_light might cause problems. What I came across for example, is that extremely bright final gathering blotches (blotches that are not caused by insufficient rays) were caused by this fact. Second, physical_light lacks of almost every neat feature the maya lights have: raytrace shadow attributes like light radius, amount of shadow rays, shadow ray depht limit, shadow color, light fog, light glow, intensity curve, barn doors (if you ever use it..), decay regions, and last but not least the capability to emit diffuse or specular only. With this in mind, I went out to find a 'substitute' for the physical_light. To anticipate but hopefully not to lower the suspense (heh..) I can say that this has been succesfully accomplished by exactly 75%.

Foremost we need to know what the key-features of physical_light are: It is a) the decay, following physical light's inverse-square falloff law. And more important b) it works perfectly together with the ligth's photon emission attributes, creating a physically plausible correlation between direct and indirect illumination. To maintain this correlation, we need to find an exact conversion factor for the light's intensity. Well, if you ever tried to approximate a maya light's intensity to a physical_light's, you probably came up with the factor 12.5, +-0.1 maybe. Hmm, why this? The physical_light's source code gives the answer: at line 109 it states

[code]

```
switch(areatype) {
case miLIGHT_NONE:/* point, spot or
directional*/
/*
* distance attenuation: 4 Pi r^2 is the area of a
 * sphere around the point. Same normalization
as for
 * spherical light
 */
f = type==miLIGHT_DIRECTION ? 1 : 1 / (4 *
M_PI * r2);
break;[/code]
```

..which means, the formula for distance attenuation (for point, spot and directional lights) is 1 divided by 4*pi, multiplied by the radius^2, or 1/(4*3.14159*radius^2). Now, if we use a maya light, the radius^2 thingy is handled by simply switching the decay

rate attribute to quadratic. The 4*pi needs to be handled manually though. So, if our physical light had an intensity of 200,000.000, we needed to switch our maya pendant to a quadratic decay rate, and we needed to divide the intensity by 4*pi - let's have a look. Continuing with the above example, I switched
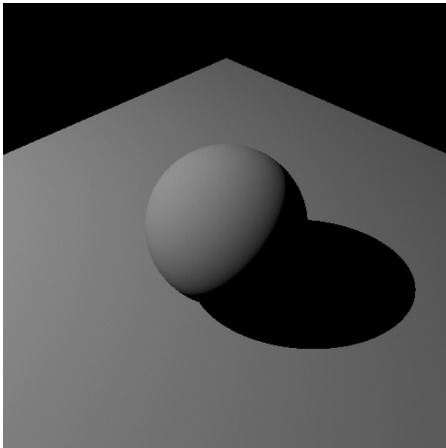
to regular maya light and set it's intensity to 15915.494:

Ugh! Exact same result! This also clarifies why most people tend to set their photon intensity to 10 times their direct light intensity when using maya lights with quadratic decay. Well, now they know that they actually should either divide the direct light intensity by 4*pi (=~12.566), or multiply the photon intensity by 4*pi. This way, physical_light can safely be 'emulated' in case of point, spot or directional lights.

Conclusion:

maya light intensity = physical_light intensity / 4*pi (=~12.566)

But what about (flat) area lights? Well, here's a simple point light, with physical_light attached (intensity 10000.000) and mentalray area light set to true, type rectangle - it's sampling is set to 1/1 and the number of antialiasing samples is min/max 1/1 to avoid irregular noise for our test:

Let's try to apply what we learned above.
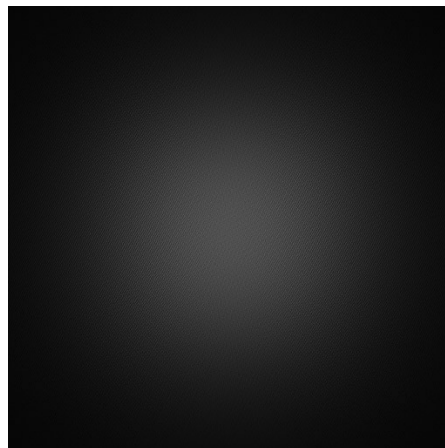
Physical_light detached, intensity divided by 4*pi, decay rate quadratic:

Hmm, that didnt work out. Let's have a look at the physical_light's source code again:

```
code]

 case miLIGHT_RECTANGLE:
/* rectangular area light */
mi_query(miQ_LIGHT_AREA_R_EDGE_U,
state, light, &u);
mi_query(miQ_LIGHT_AREA_R_EDGE_V,
state, light, &v);
mi_vector_prod(&normal, &u, &v);
mi_vector_normalize(&normal);
mi_vector_to_light(state, &dir, &state->dir);
mi_vector_normalize(&dir);
/*
 * Compute area-to-point form factor (except cos at
 * the receiver). <cosine> is cos at sender. Returning
 * 2 means "no color and stop sampling".
 */
cosine = mi_vector_dot(&normal, &dir);
if (cosine <= 0)
return((miBoolean)2);
if (paras->cos_exp != 0 && paras->cos_exp != 1)
cosine = pow(cosine, paras->cos_exp);
/*
 * cos term and distance attenuation. No area term
 * since "color" of the light is energy, not radiance.
 */
f = cosine / (M_PI * r2);
break;[/code]
```

As you can see, in the line next to the last, pi
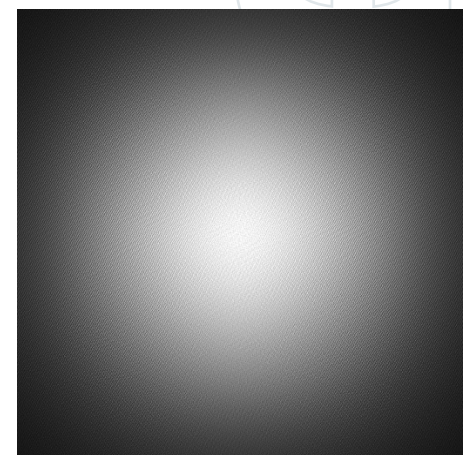
only is used. So let's try that - intensity divided by pi only (10000/pi = 3183.099):

Better, but there's still a big difference for some reason..? Well, it has to do with the cosine_exponent attribute of the physical_light. The cosine_exponent is narrowing the light's default cosine distribution by taking cosine to cos_exp's power - so if we use a physical_light again and set cosine_exponent to 0 it should be equal to what we just rendered with the

maya light:
Same result! Sweet! But didnt we want to emulate a physical_light with maya lights, not vice versa? So how can we simulate this cosine_exponent? I had to experiment, and found out that a maya spot light's dropoff attribute has the very same effect - only drawback is that you need to max the spot

light's cone angle (~179.994°) - this can get a bit annoying, because the displayed cone get's incredibly huge (tip: to overcome this scale annoyance we can trim down the Locator Scale attribute under Object Display of our lightShape node to something like 0.001 or lower). So I switched my maya light to type spot light with cone angle 179.994, penumbra 0 and dropoff 1 - intensity again is physical_light's intensity/1pi (and dont forget to switch decay rate to quadratic again, as it gets switched to 'No Decay' when switching light types):

Snap! It's the exact same result as with physical_light.

CONCLUSION:
For rectangle and disc ('flat') area lights:

maya light intensity = physical_light intensity / 1pi (=~3.142)
maya spot light's dropoff (with cone angle maxed) = physical_light's cosine_exponent

For sphere, cylindrical and geometric area lights:

maya light intensity = physical_light intensity / 4*pi (=~12.566)
note: cosine_exponent does apply to flat area lights only

Well, this perfectly emulates physical_light's intensity and cosine_exponent. But what about it's cone attribute? The cone attribute simply represents (out of the manual) 'the cosine of the opening angle of the inner solid cone'. With maya lights this can easily be imitated by using a negative penumbra angle (a positive penumbra would make the cone angle actually wider).
So what's left is the threshold attribute of the physical_light. That's why my success goes as far as exactly 75% (4 attributes to be 'emulated', 1 failed, makes a loss of success of 25%, heh). The threshold attribute sometimes helps to effectively reduce the amount of shadow rays when using finalgathering. It's kinda useless though when used solely with direct lighting. However, this internal optimization cannot be achieved by a standard maya light - maybe in future? With the above correlations in mind, you hopefully better understand the interplay of direct and indirect (photon) intensity and you can get physically plausible solutions without abandoning maya's native lights and material shaders. I hope you enjoyed another experiment that maybe will let you get a bit more out of mentalray than usual.

Contact me via mymail@floze.de, or visit my website at
http://individual.floze.de/
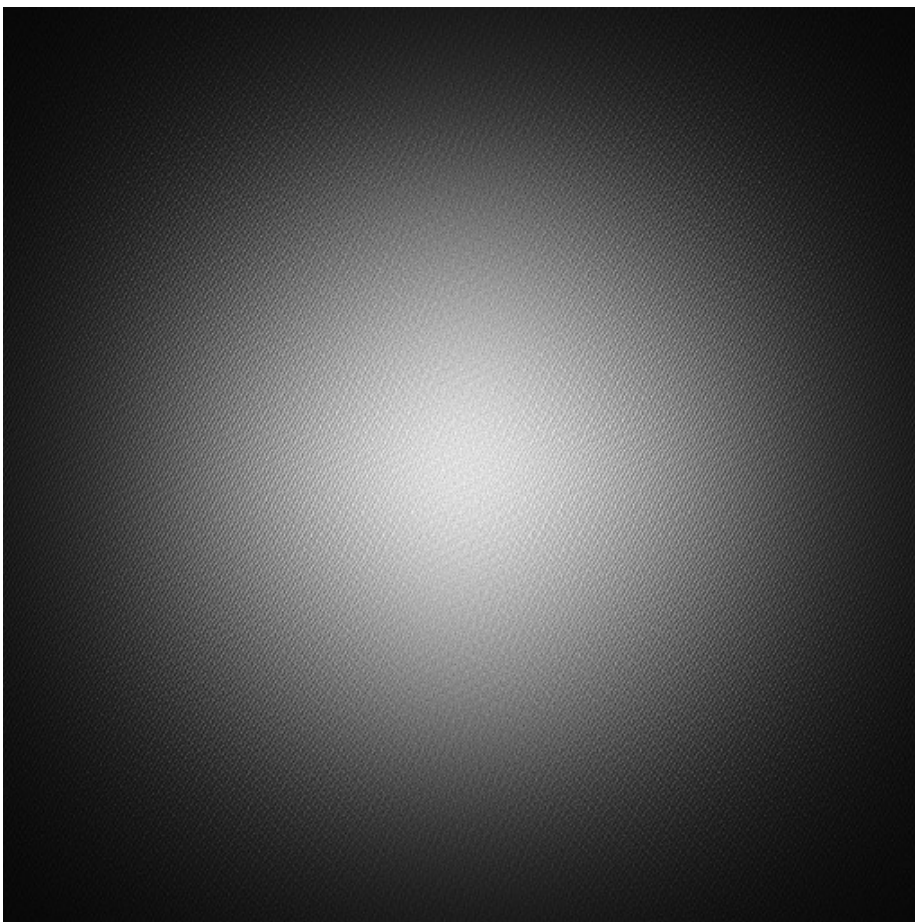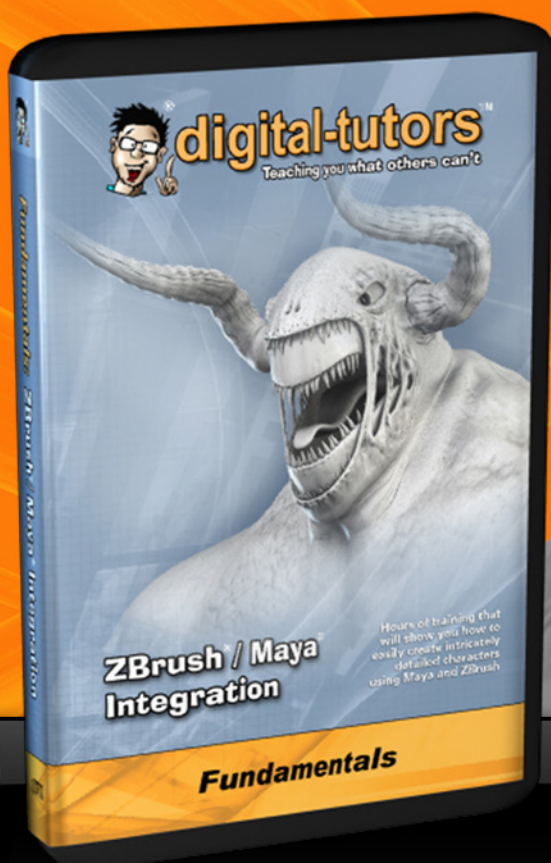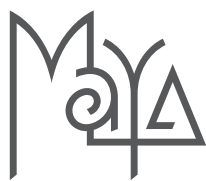
joan of arc

Joan of Arc Part ?

We bring you Part 7 of Michel Roger's famous 'Joan of Arc' tutorial in Maya, Lightwave, C4D & XSI, if you are a Max user and this is new to you the original is free and can be found in French as Michel's site http://mr2k.3dvf.net/ and in English at www.3dtotal.com.

INSPIRING

If there has been one single tutorial that has educated and inspired more budding 3d artists than anything else, this complete step by step project by Michel's must be it. The community is in debt to him and in our october issue we interviewed the man himself! The Tutorials are free to download for 3dcreative customers. For security purposes you will need to email

joanofarc7@zoopublishing.com

Including your order Transaction ID number in the body text to obtain your unique password for the download area. Your Transaction ID can be found on your purchase confirmation email and looks like this:

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If you do not receive your username / password email, please check that it has not been deleted by any email security systems you may have in place. You shoulr recieve your link within 1 hour. If you do not recieve your link within this time then please email

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HIT OF THE MONTH
BY ROCKO

JULY

THE ODDFATHER

The Making of
Oddfather
By Pete Sussi

The Oddfather

This little 'how-to' will follow my process of creating the "Oddfather". First off, let me explain that this was always meant to be a single render. This will differ from my process

of how I would go about an animation. Since it is just one frame, I can spend all my time making it right. If it were an animation, I'd need to spend more time making the deformations and textures to render out as best they can. OK, so let's start.

The figure was rigged fairly well and posed, however, there were several issues that didn't work out. Mainly, bad deformations. Bad deformations can be OK and in the first stage they were left "as is". In Lightwave I saved the pose as an endomorph (which basically means the pose was frozen in a position that could be brought into modeler). Note, this is different than saving a transposed model because that would remove all sub-patching and break up all the subpatches to hundreds of polygons and make it nearly impossible to correct deformations.

So, now the model is back in Lightwave, go to the new endomorph (that has the posed

BEFORE   AFTER
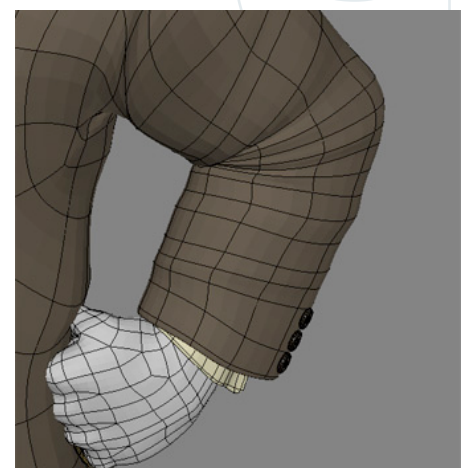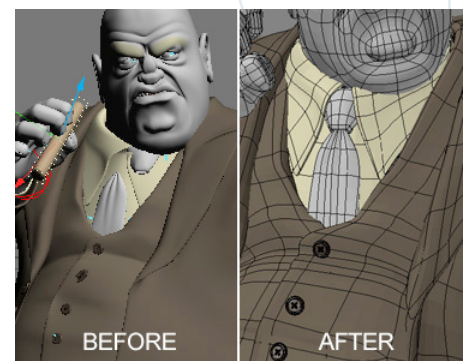
figure). It is here were I take my time and touch up all the glitches in the pose. This includes; all the stretched buttons, the bad deformations at the arms, and the waist...even adding some muscle bulging in the arms and creases in

the jacket and drooping the ends of the pants over the shoes. Basically, I went over each bodypart to critique it and asked myself, "how it would look in a real pose?" Again, if this were an animation, of course I couldn't adjust every frame like this.

OK...so now I have a good looking single pose. it's time to bring it into LightWave to render. My light on the character is a basic 3

point light set up. A key light to the front left, a fill to the right and now a special note on the rim. If you look at the shot, the rim light (or the light coming from the back rear) wouldn't really exist in that scene. There is no light source there. However, sometimes you can cheat this in the name of making a more dynamic render. The strong rim light really pops the figure out from the background. This is a technique I use

RIM LIGHT EFFECT
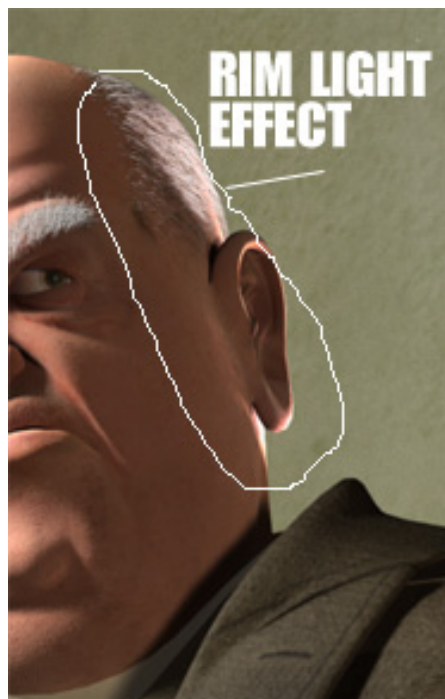
in real life when I do corporate shots of CEO's in their offices.

The key and rim are pure white, helping me achieve the feeling of a raw lightbulb hanging from the ceiling. The fill is a little warm in colour to add a bit of contrast. The background was some basic filling of light. Again, i added a hard light on top to mimic a raw bulb. Which really pops the specular highlites of the tin ceiling. All lights are area lights, since nothing is more true to actual lights. Area lights give a beautiful look when rendered. I know it takes longer to render...but nothing is worse than spending a few weeks making something look perfect and only imagining how much nicer it would have looked if I just took the extra day or so to render the better lighting! While we're talking about taking the time to render things as nice as possible, I should mention this was rendered with radiosity on. I used fprime to render which really handles large complex files well. The only thing that wasn't rendered in fprime was the hair, since it is not supported. That was a straight LW render.

So now we have our raw render and it looks pretty good already. Our touch up work in modeler was worth the time! But there are still

ODDFATHER SCENE SET UP

DEPTH OF FIELD LINE

FOG MIN. LINE

RIM LIGHT

FOG MAX LINE

FILL LIGHT

ROOM "BULB" LIGHT

KEY LIGHT

CAMERA

The Oddfather

original   retouched
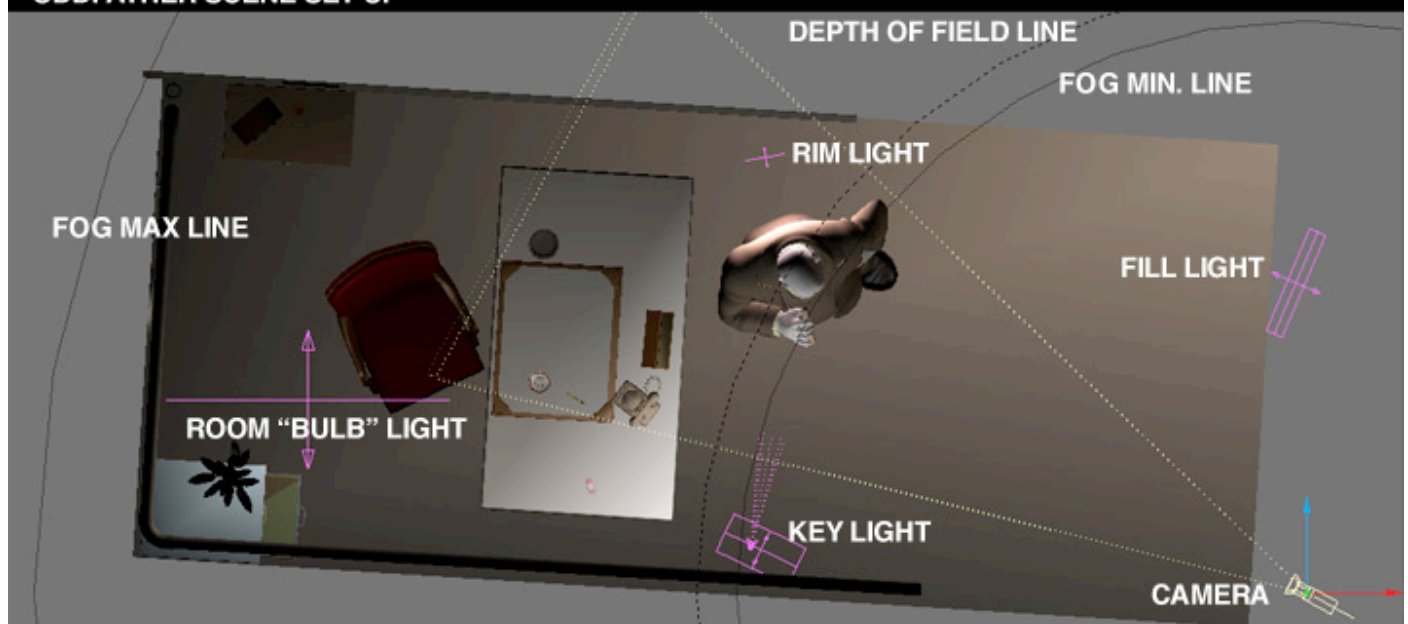
lots of little problem areas. These include some polygon glitches and pinches here and there. Now comes the real fun, adding all those extra details that would really polish this up. Lets start from the head, here is a basic rundown;

THE HEAD:
Actually, the head looked pretty good straight from the render. I used sasquatch for the hair, but I wanted to add a bit more controlled variation. So I picked some darker greys and drew in some hairs; heavier at the bottom and whiter as I moved up. The eyebrows needed a bit more attention. I always loved the look of bushy eyebrows on older men. Much like Martin Scorsese. You know the type, those long wirey eyebrows that just ooze expression. I mean, a good strong eyebrow just sells the emotion of the face. Especially if your model lends itself to it. So, I took a small hard edged brush and painted in some stray hairs as well as a few extra long ones at the ends. I also added a slight highlight to the water line that sits just above the bottom lid. I know you can model this, but I didn't really experiment with it until after I finished the model...and hey, that is the beauty of doing a single frame render. I created it by using a small, hard edge brush and followed right above the bottom lid. I purposely put a little movement into it so it didn't look mechanical.
I noticed when I did the first few pose tests, and I didn't have sub surface scattering on, some of the facial features looked a bit stronger. With an angry face, sometimes those stronger features add to the look. So I made a render without the SSS on and put it over the one with it. I then added a layer mask and with a low opacity, I painted in some of the mask and let the harder shadows seep in. Also to note, is the cigar. I added a slight orange and yellow "burn" ring where the ashes meet the outer wrapper.
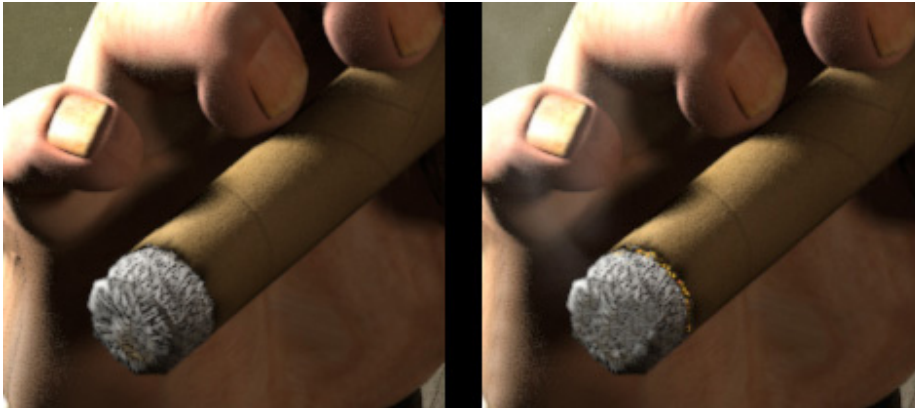
THE BODY:

Well, other than fixing some bad deformations, there wasn't much to fix due to our custom pose modeling. But here are a few corrections. Using a layer in PS filled with 50% opacity and set to overlay, I hand painted in highlights and low lights to create the pocket. I used the same technique to enhance some folds in the jacket. The biggest fix was the vest. The twisting of the body and natural UV problems made some less than desired wiggles to the pinstriping.

So i re-rendered the vest again without the pinstripes and masked it in in Photoshop. I then made a low res version and imported it into Illustrator. From there I drew new lines following the imaginary contour of the photo. From there I saved the lines as an illustrator document and opened it in Photoshop and scaled it to size. I lowered the opacity a bit and multiplied it. With a layer mask, I trimmed the edges to fit perfectly. Then I added some blurring by hand to make it fit the actual DOF.
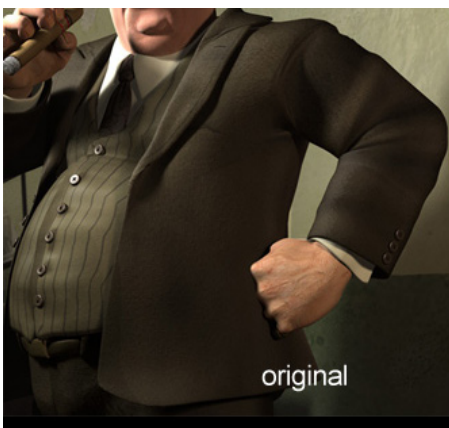
original
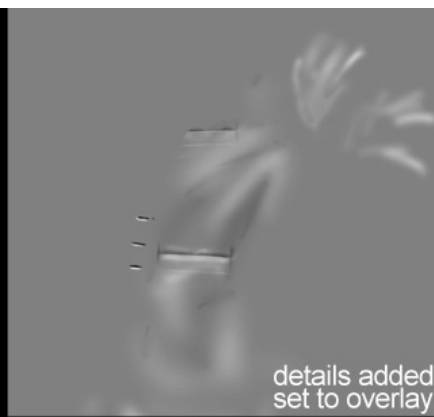
details added set to overlay
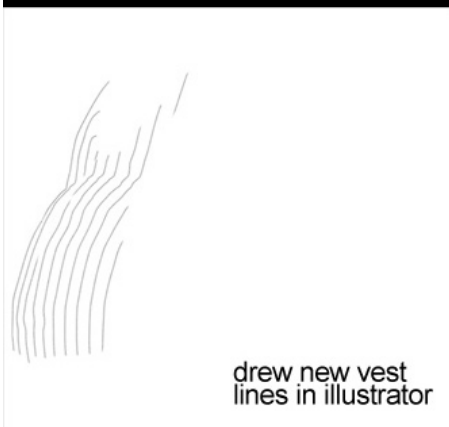
drew new vest lines in illustrator
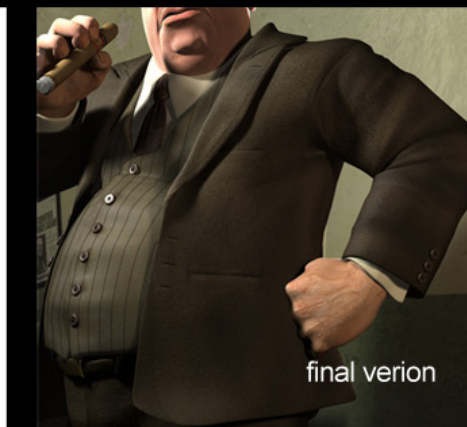
final verion

I also added a grunge layer multiplied over the shoes, since I thought they looked too clean. Using a wacom, I added some hard drawn scratches.

original

grunge set to overlay
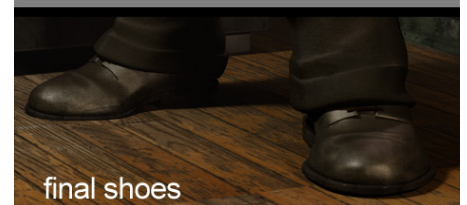
final shoes

FINISHING TOUCHES:

Well, I painted some off-white "blobs" over the cigar to simulate smoke. Then I took the smudge tool and created some nice wisps of smoke. Then I came back and erased some areas I thought where too strong in opacity. The ceiling had a sharp edge to it that I wanted to soften. To make a more organic edge, I drew a slightly wavy selection with the path tool and cloned the wall to fill in the part outside of the edge. I also added some more grunge to some areas of the walls. There was a lot of green in the room & being such a fan of complimentary colours, I added a bit more red to the face and hands. This added a nice contrast to the green walls (since red is the complimentary colour to green). It also lent to the feeling that he was so mad, he had a rush of blood to his head. Again, there is some artistic licensing in play here. But most people wouldn't pick up the subtleties and I think It enhances the final look. The final touch was the overall colour. I liked it, but it didn't look

original

smoke added

original

pink added to face and hands

old. You know what I mean...ever see a movie where they show a flashback to the old times? They seem to have almost a sepia look to them. So with a bunch of different settings I settled on a yellow - gold layer set to overlay at a lowered opacity. This gave me a rich warm feeling and that old time feeling I was looking for. At the same time, it sort of "blended" the

colours to have a bit more harmony. Again, different pictures call for different effects. The nice thing about Photoshop is that playing with layers is non-destructive. You can play with several layers and then go back and compare them all to each other...or shut them off again. To complete the look, I made a copy, flattened the image, and made it grey scale. I pulled the

darks all the way up, so just the pure whites showed. I pumped up the highlights to get a nice sharp white, blurred that and put it on top of my color file and set it to screen. (You can erase areas that you don't want as strong). If you need a stronger effect, you can duplicate the layer and it'll make the effect stronger. To me this gives it the nice cinematic feeling I was

original

color set to overlay

with gold

trying to achieve. Again, it's up to you! Have fun with it!!!

Making Of By :

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no bloom

bloom layer
set to screen

render with bloom
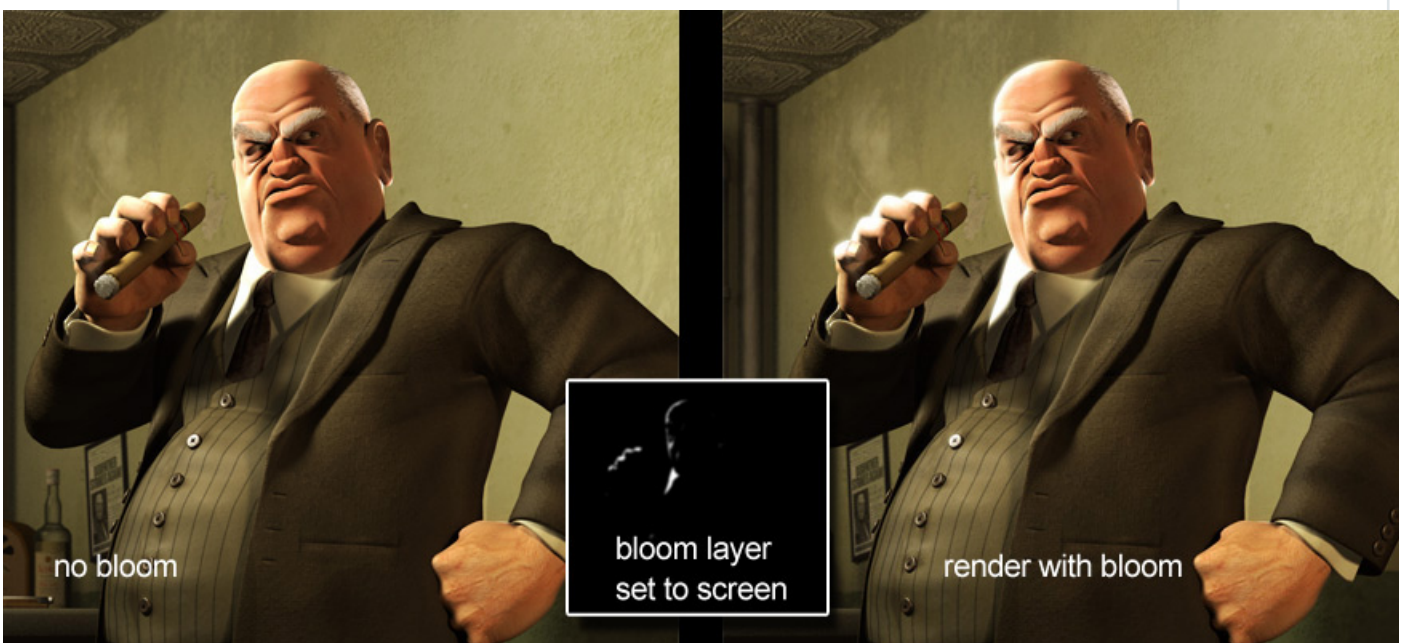
THE MAKING OF
HANUMAN

Hanuman

Concept of image:

This pose, Hanuman is swinging his swords whilst charging the magnectic power of the universe into them (Fig1).

Modelling

I created polygonal models first and then converted them to subdivision surfaces in Maya. I created individual parts,bringing them together into a human form for example the armours are based on human anatomy as the proportion of the human body is 7-7.5. This gives a more realistic look. (Fig 2,3 and 4)

fig 1

Sketch Image   HANUMAN   Inspiration Image

fig 2

fig 3

Body Model

fig 4

Proportion

1
2
3
4
5
6
7

fig 5

UV Checker
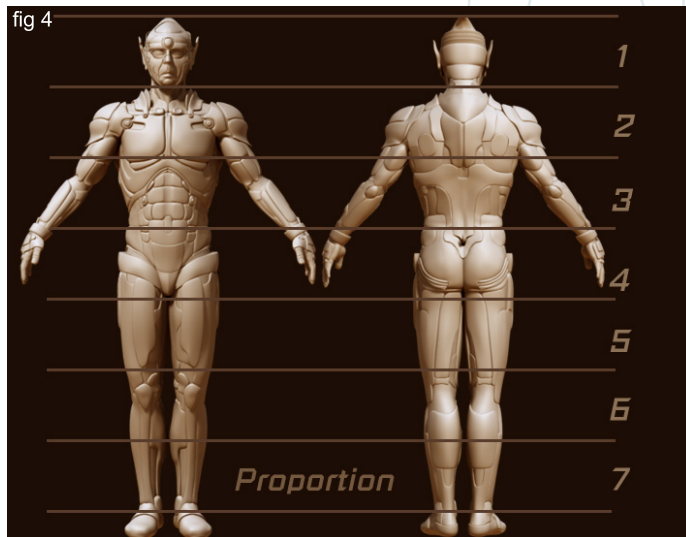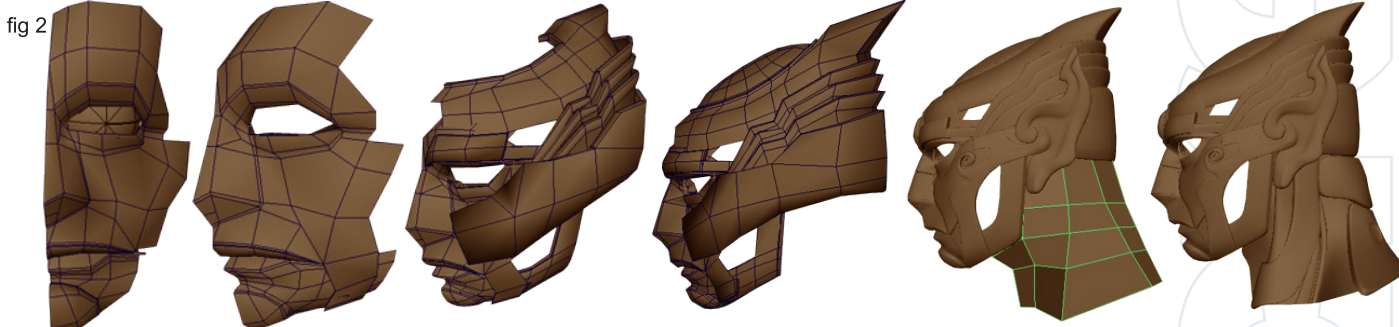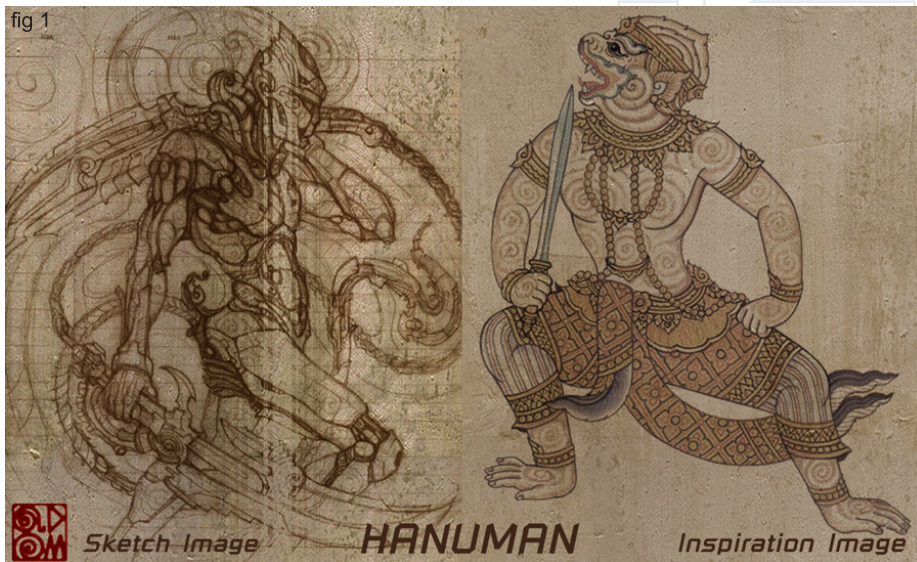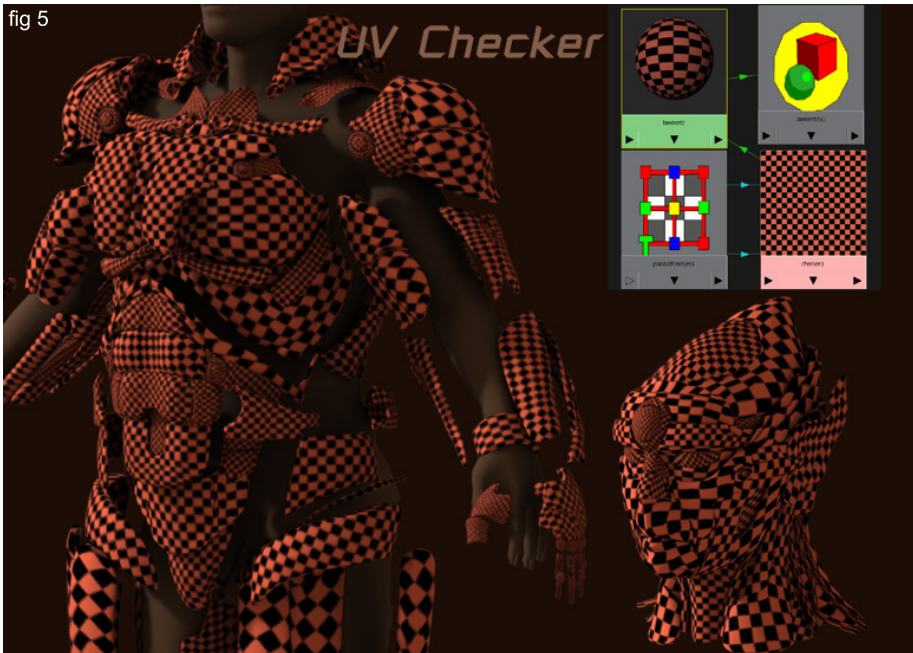
UV

After modelling each part had to be given UV coordinates. Mostly, UV coordinates use Maya's automatic Mapping. Then check the stretchness of the UV coordinates in 2D textures using Maya Hypershade. After checking and correcting completely, export all to be .obj files in order to bring them into Maxon Body Paint for the next step (Fig 5 & 6).

fig 6

3D Paint Texture
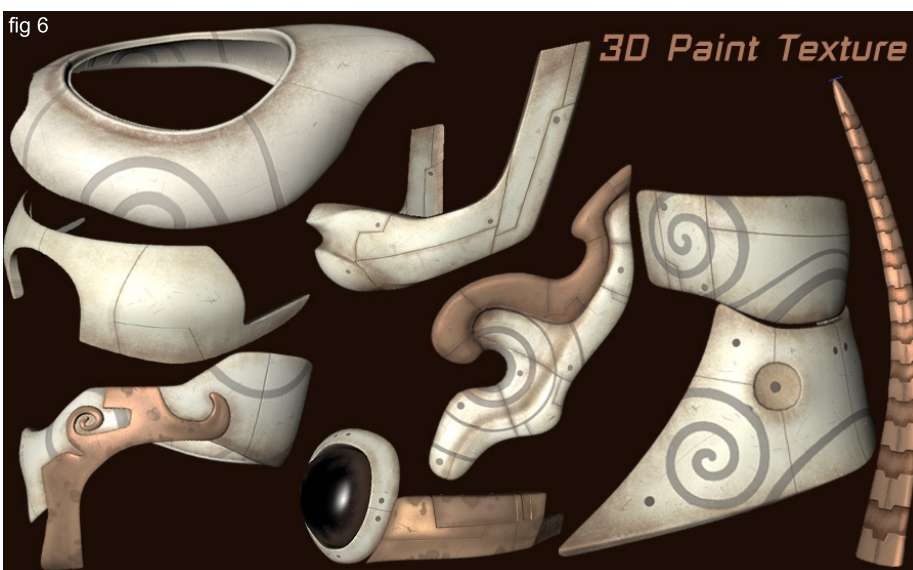
CREATING TEXTURES & SHADERS

Import all of the .obj files to 'paint maps' in Maxon Body Paint. For each one, I use 3 maps which are colour, bump and specular, saving the 3 texture maps as tif files. Then I go back into Maya to create the shader networks. I think this is a very comfortable work process. For creating displacement maps, I use ZBrush which allows me to add more details without making the model too heavy. Then bring the displacement maps into Maya again. Even though this process can use a lot of time due to the number of stages, it is very useful for the details and realism (Fig 7, 8, 9 & 10).

fig 7

UV   COLOR

BUMP   SPECULAR

Armor Shader

fig 8

UV   COLOR

Copper Shader   SPECULAR   BUMP

fig 9

Displacement map

Front View   Side View   Back View

fig 10

Detail

Sword
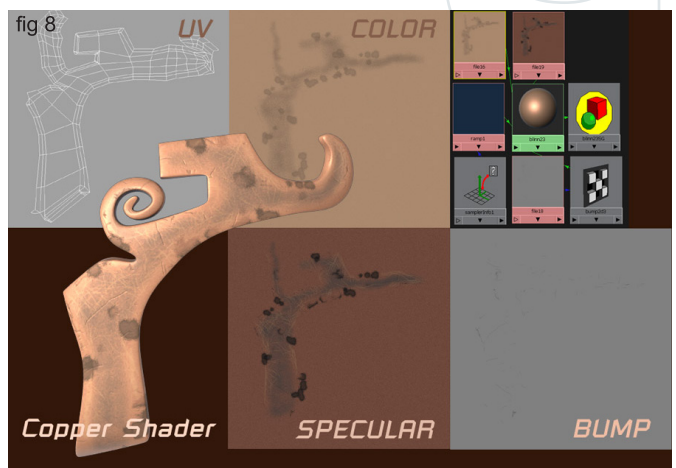
TEXTURING

Posing the model technically it is not complex
because when creating joints of the skeleton
for this model you don't have to worry about
animation. I had a little problem with the lines
of some models. They divide themselves
when I change the parts and pose it. The most
difficult part in this process was how to pose a
character into the mood that I wanted.
(using smooth Bind Skin and Paint Skin
Weights) (Fig 12)

fig 12   Pose
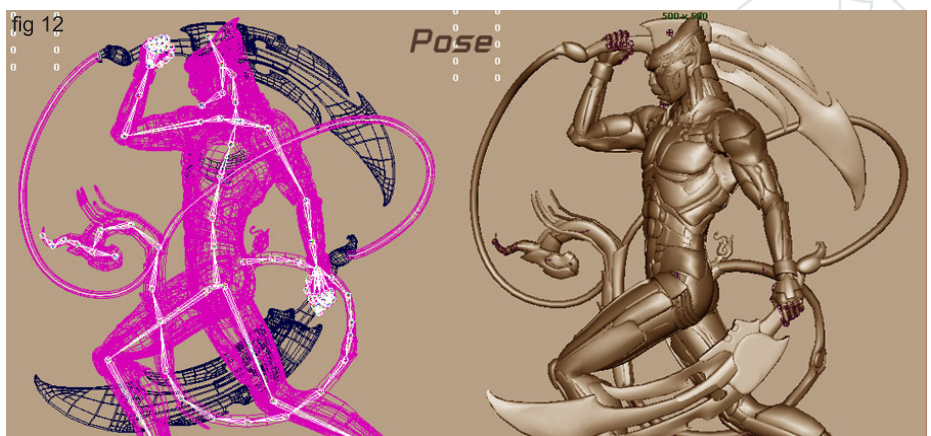
LIGHTING AND RENDERING

After posing the next step is lighting. I used
white for the key light (The value of intensity=1
and used ray trace shadows). For the fill
light I used a blue directional light (The
value of intensity=0.3 and no shadow). For
the environments I used a dome light. Then
adjusted it accordingly and rendered out 6
parts which are colour, specular, shadow, fill,
occlusion and reflection. The final job was to
combine them again in Photoshop (Fig 13 &
14)

fig 13

KEY LIGHT

Dome Light

FILL LIGHT
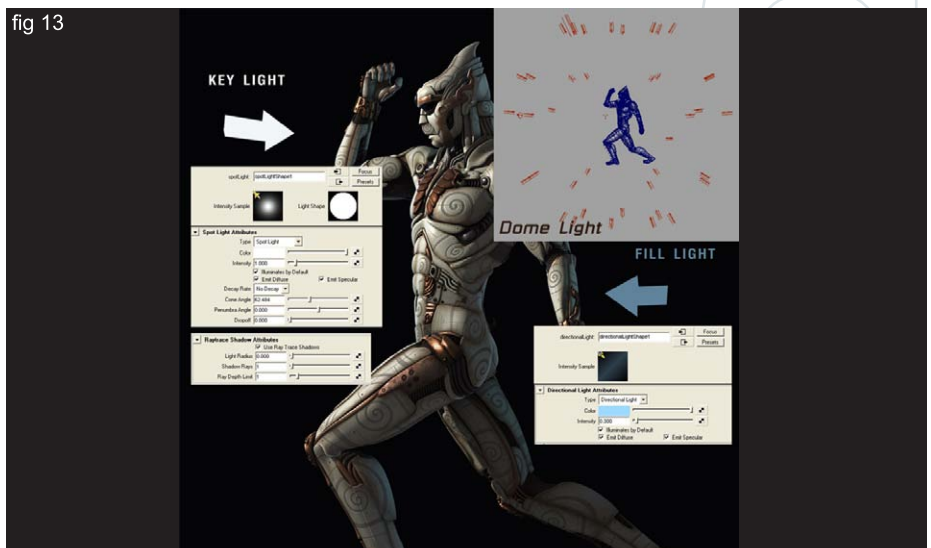
fig 14

HANUMAN Render Part

Specular   Color

Shadow   Fill

Occlusion   Reflection
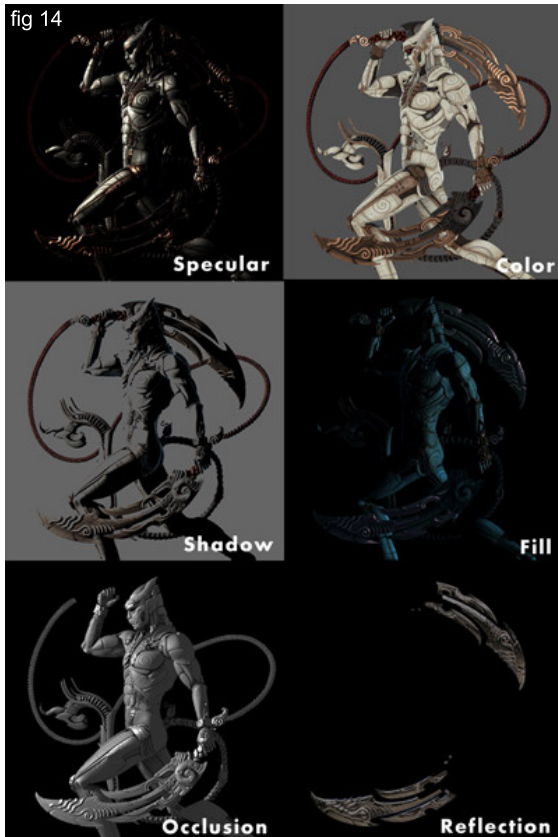
By Udom Ruangpaisitporn (TUCK)

Layer Background For Composite

fig 15

COMPOSITE

For the background, lighting and all the effects, I used Maya's paint effect by attaching brushes to curves in order that the effects follow the curves that I set. Finally, combining the character and the background in Photoshop and adjusting the layers to complete it. That is my Hanuman!!! (Fig 15 & 16)

Thanks for reading!

Making Of By :

UDOM RUANGPAISITPORN

tucker_3d@hotmail.com

http://www.flickr.com/photos/tucker_3d

sets/436961/

fig 16

HANUMAN
By Udom Ruangpaisitporn (TUCK)
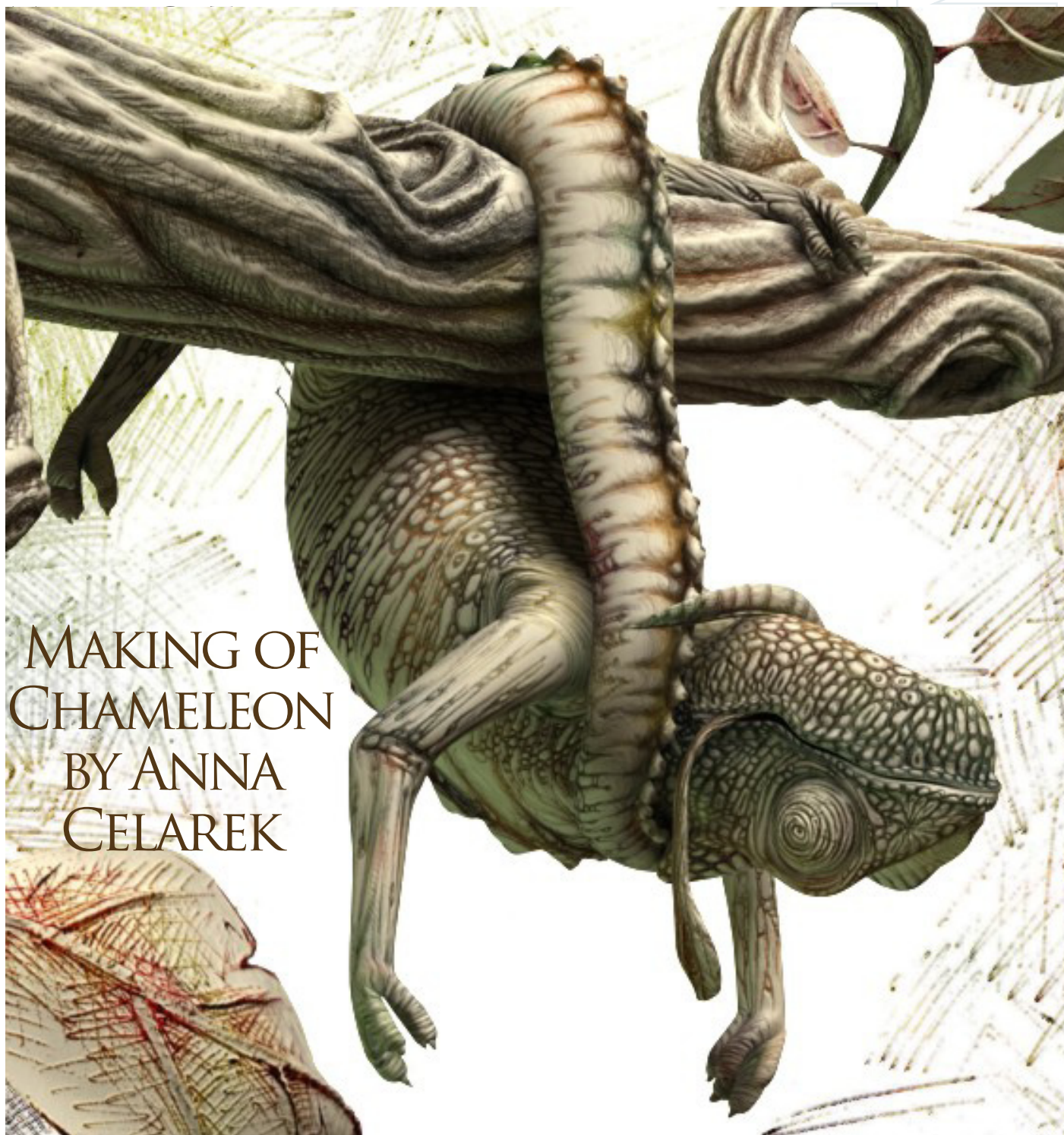
Making of Chameleon by Anna Celarek

Making of Chameleon

At first, I'd like to say a thank you to all the people who supported me by giving me advice during the WIP phase of this and a special thanks to Mert Arslan.

I will not go into modelling details here, as it's standard modelling and nothing special. Rather I'll concentrate on the texturing. Also, I 've come to some dead ends in between (starting modelling several times, unwrapping thrice, multiple failures with the tail and feet, tea spilt over the texture, etc.), I will leave those things out.

As reference, I used around 30 images found through google, and 2 simple selfmade pencil sketches (side and top view) as blueprints. I modelled the chameleon with the poly-by-poly method, at first in a neutral position (Fig 1).

Fig 1
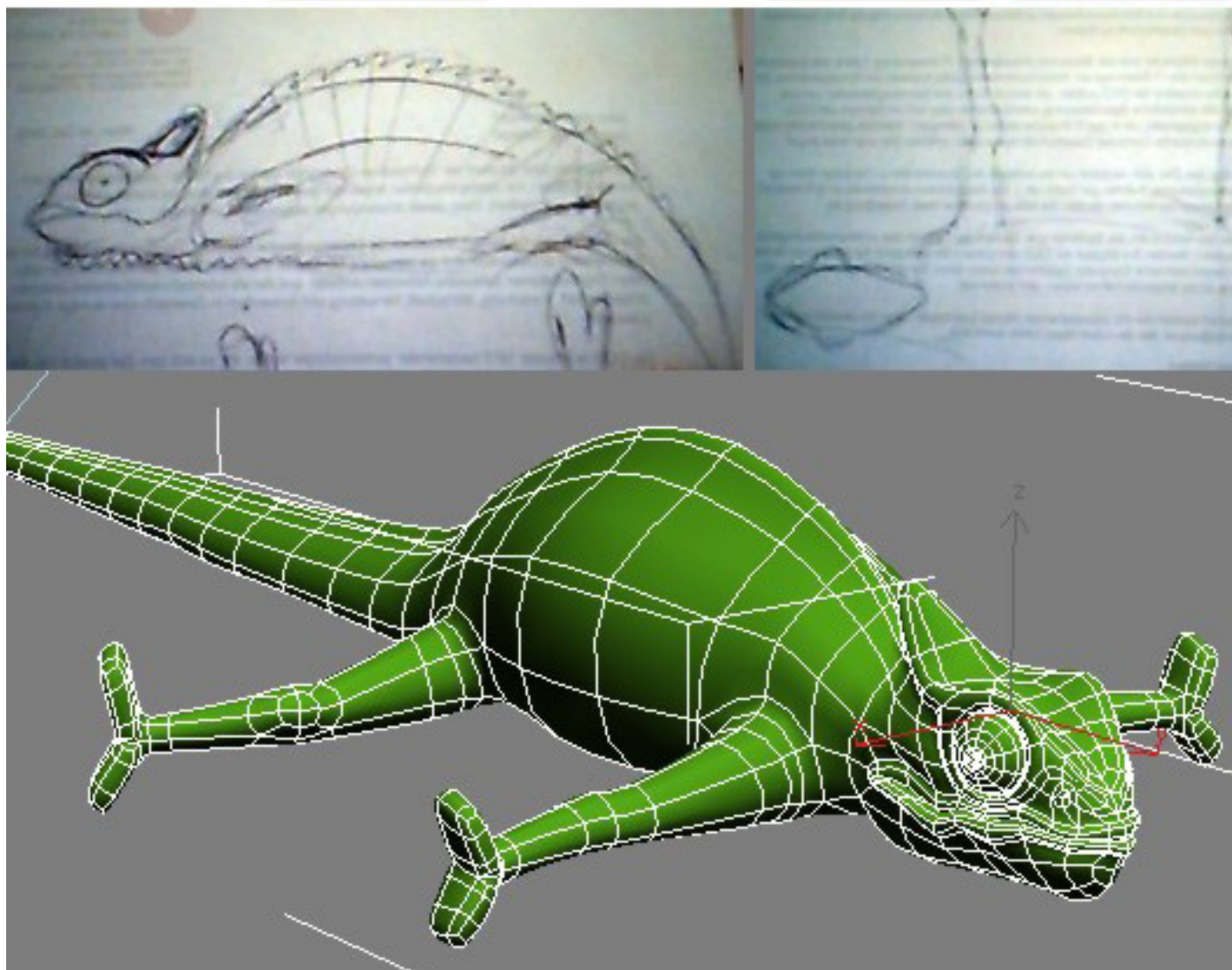
I rigged and positioned it on a branch. then collapsed it, and edited the mesh to remove some intersections and errors which came out during the positionning process. I then re-modelled new feet (Fig 2)

and unwrapped both models using pelt mapping. I didn't plan any animation nor view changes, so I unwrapped just the visible side. That made me less flexible for changing the camera, but it also gave me better quality and less stretching of the texture. I made most seams invisible by putting them on the backside (Fig 3).

Fig 2
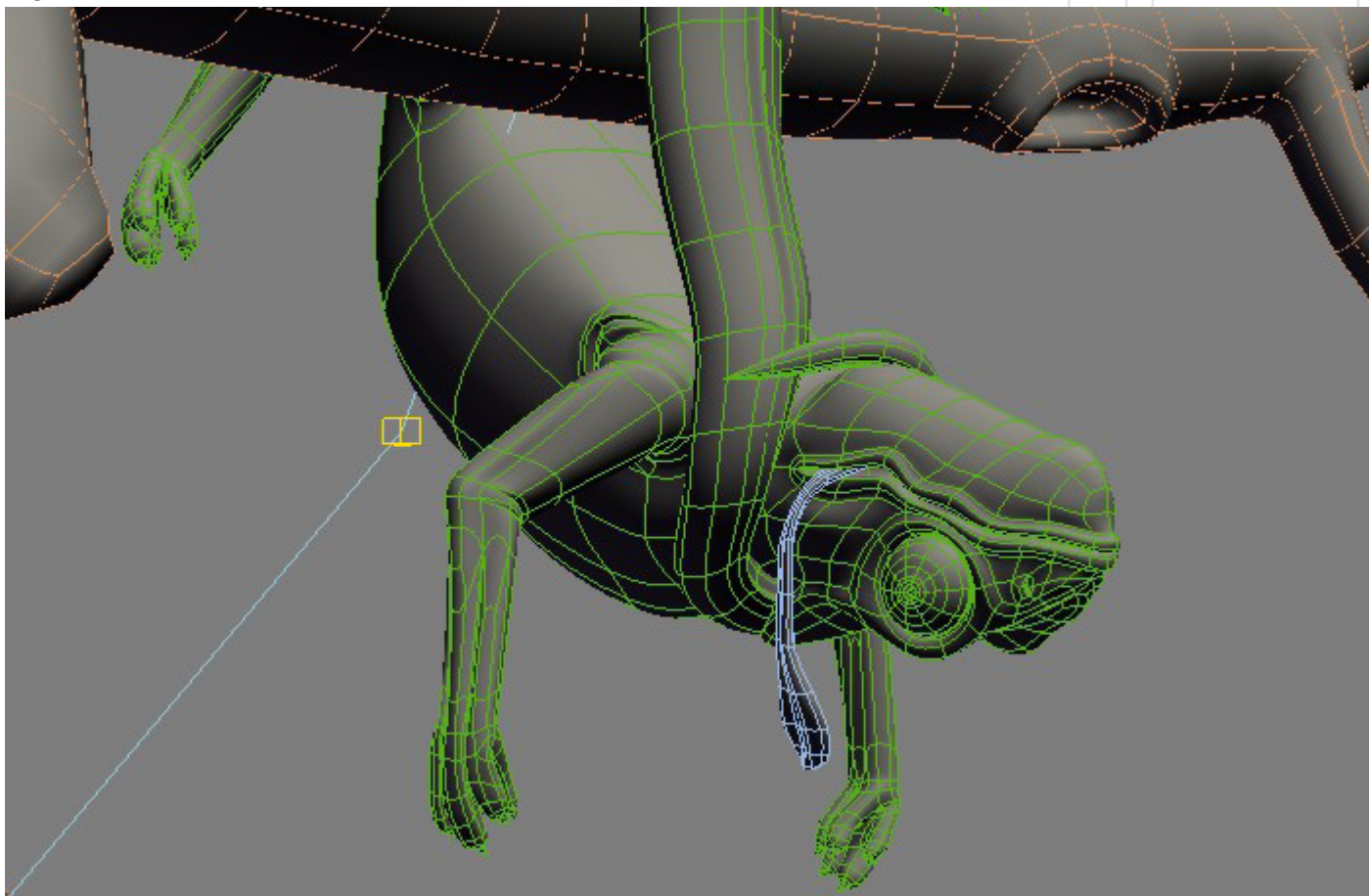
Fig 3
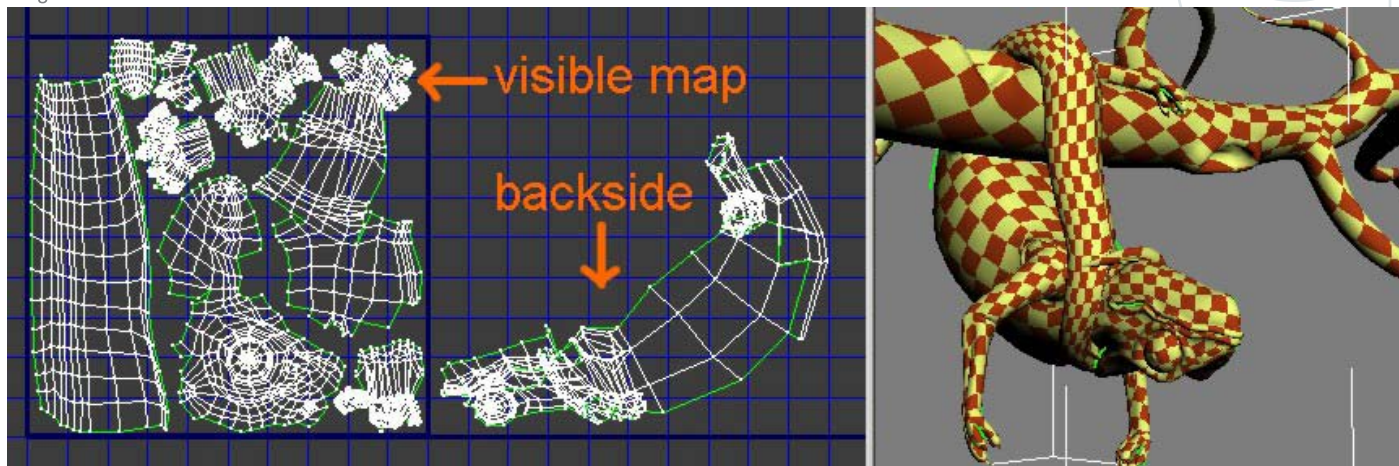
Fig 4
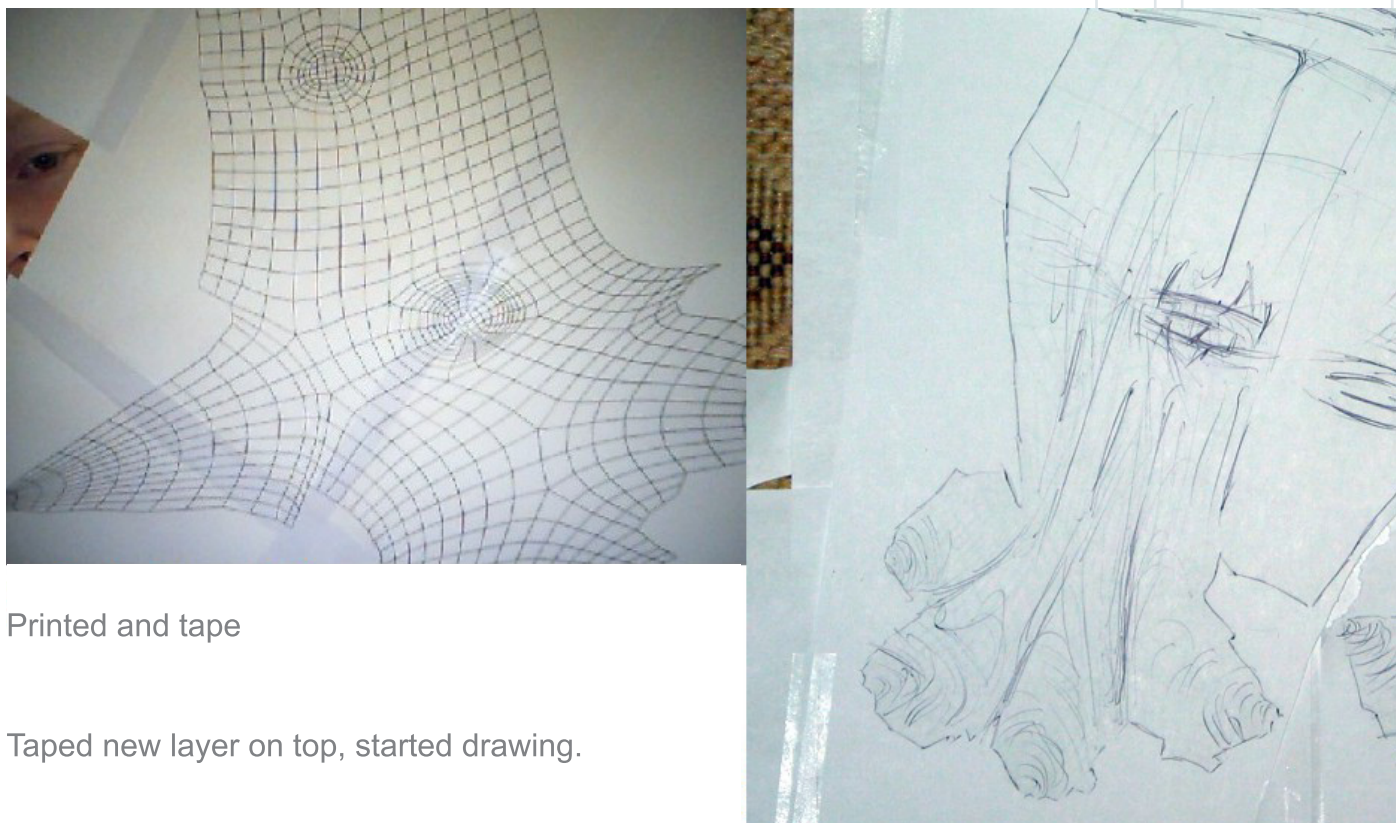
Printed and tape

Taped new layer on top, started drawing.

I printed the uvw maps onto 12 A4-sheets
each, and taped them together and then, I
taped clear paper onto the top. The original
uv's were visible through the top paper, but
wouldn't be visible in the final version.
I made the top paper overlap on it'sseams,
so that later I could draw into the seam from
both sides, which made it more convenient to
puttogether again (Fig 4).

Fig 4
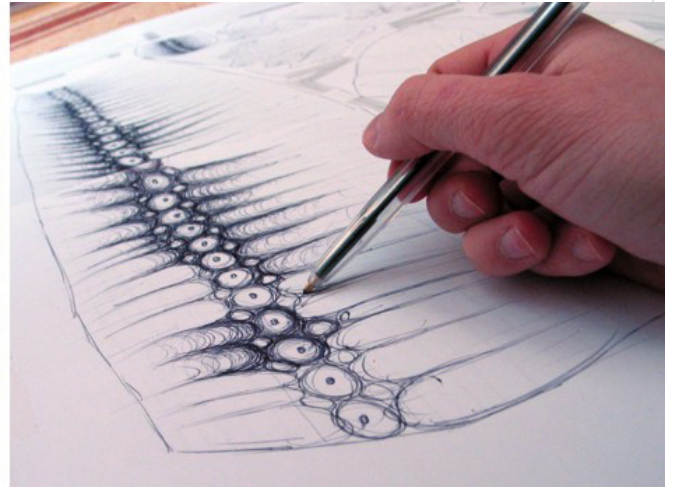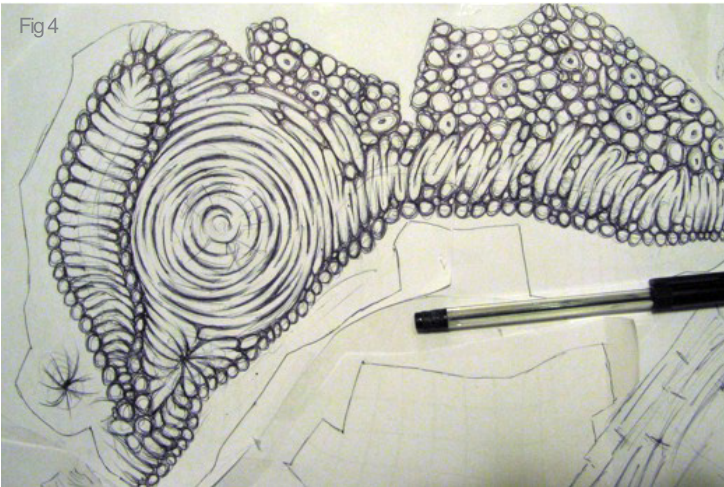
I started to draw, using a black ballpoint pen.
I drew the shape of a scale, then shaded it by
making strokes in the same direction as the
scale.

In between, I took photographs of the texture,
and made some render tests, to see where
I needed more detail, and where it looked
alright.

I noticed that I had placed the scales on the
back wrongly by one loop aside and so I
adjusted them in the unwrap modifier to fix that
problem (Fig 5 & Fig 6).

Fig 5
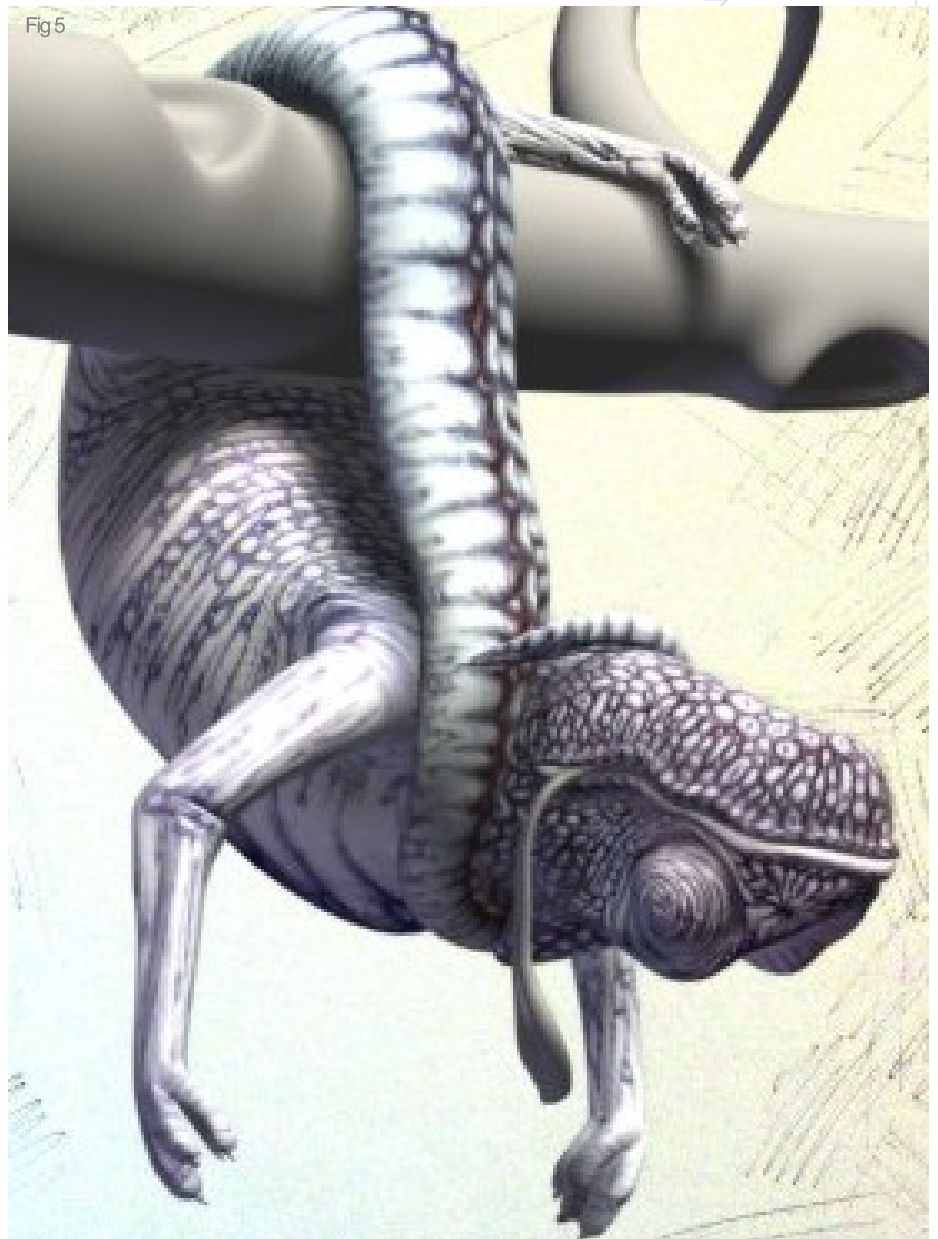
Fig 6
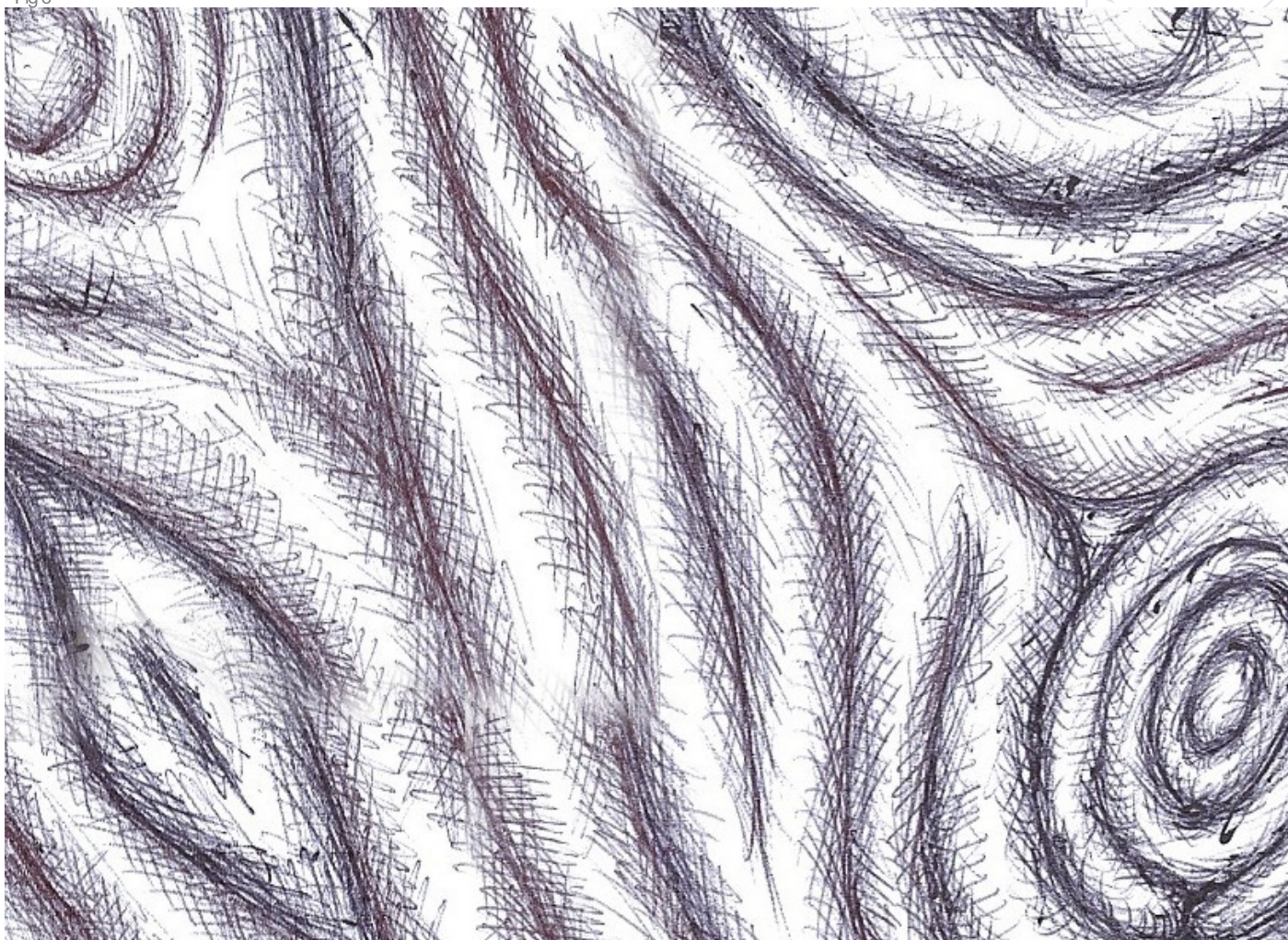
Fig 7

For the branch I drew the texture using, crosshatching. It was more work than the chameleon itself, but I think it wouldn't look good if I had put the same structure everywhere (Fig 7).

I drew a background for the picture onto one A4 sheet. Also, I drew 4 leaves, and then used them as reference for simple leaf models (Fig 8).

Fig 9

Overlay

When the two main textures were ready, I detached the paper from one another and scanned them. A bit of the detail (brighter lines) got lost, but apart from that it looked good. I was glad that I had not done it with pencil (which I had considered at the start), the scanner would have lost a lot more of detail.

Using Corel Photopaint, first I scaled the uvw map to the size of the scans (doing it the other way around, would lose more quality), and then I placed the scans over the uv's, being careful about making them fit as closely as possible. I used a soft erasor for the edges on the seems, so that in the end the seems between the different pieces of paper were hardly visible.

After initial renderings, I noticed that the colour didn't look that good, it was all too uniform and grey. To fix this I put a strongly blurred image (a random picture from some gallery) onto a new layer, and put it into soft light mode, or overlay mode.

For the background I used the same method,
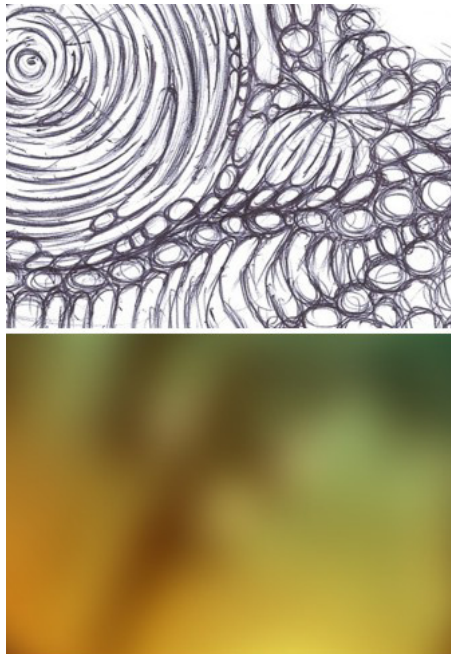
again using a slightly blurred layer of the hand-painted texture (Fig 9).

For the displacement map on the branch, I put a strong gaussian blur onto my hand-painted texture, and increased the contrast. I put a black-and-white vertex colour map onto the branch object, which I used as mask for the displacement, so that the displacement on the
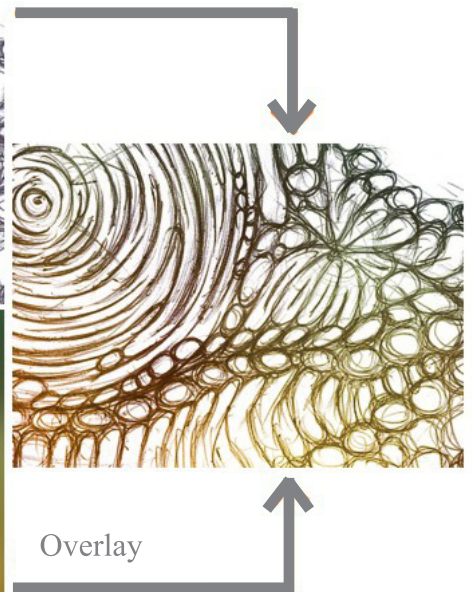
thin branches would be less than on the thicker ones.

For the displacement on leaves and the chameleon's back, I made just a few strokes in Corel. I also made an opacity map for the leaves (Fig 10).

Fig 10

Branch adjust to UVW
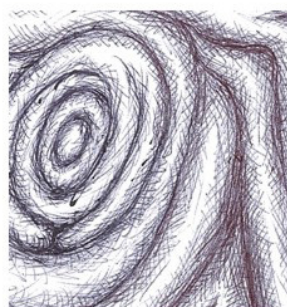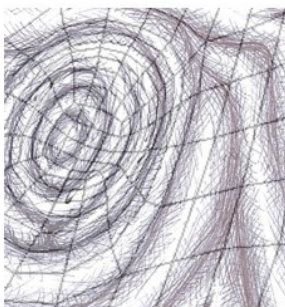
Unedited map => bump

Gaussian blur and contrast => displace

Soft light => diffuse

I rendered it with scanline, advanced lighting (light tracer), using two direct lights - one strong, yellowish light from the front, and one darker, greenish light from the back/down, both directs had shadow maps. I also added a skylight to the scene, with a .hdri map as colour. I adjusted the colour of the .hdri by putting a RGB-tint map over it.

I didn't do much post production making only a very small colour change (Fig 11).

Thanks for reading, I hope I could give you some new ideas.

BY ANNA CELAREK

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Fig 11

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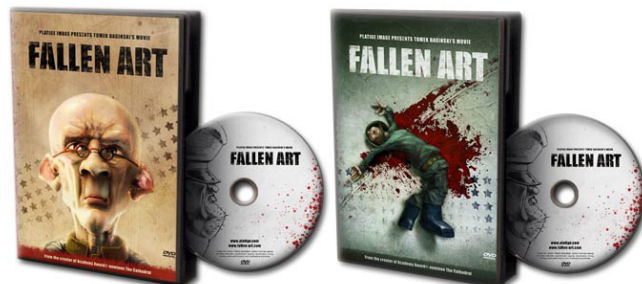
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Texturing a Scene Part 1 by Richard Tilbury
Mental Ray (Maya) part 3 by Florian Wild

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Industrial Product 'Nokia M90'
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Deep Fish by Olga Antonenko
Kameswaran Iyer by Prashant
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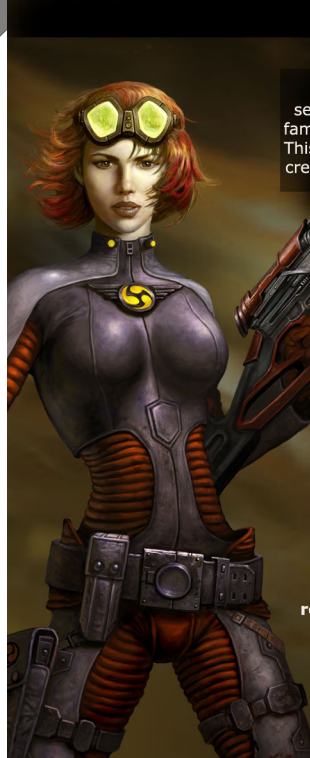
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